Why Sampling for Mold Exposure is Often Not Very Useful
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I often have people ask me to sample the air for mold to ascertain whether or not mold is making them sick. Sometimes they ask even if they are not experiencing symptoms. What they don’t realize is that the air is “sampled” on a daily basis by hypersensitive (allergic) individuals, many of who have mold allergies or mold triggered asthma. In fact, this “sampling” and “analysis” by hypersensitive individuals is much more sensitive then currently available conventional mold sampling and analysis because the human immune system is simply a much more sensitive instrument.

So my first question to complainants is whether there are any individuals experiencing symptoms. If they aren’t, mold is likely not a problem as about 25% of the population has some type of allergy, many of them being allergic to mold. If there is visible mold growth or a musty odor, then remediation is called for even if there are no symptoms. If there are symptoms, the second question is whether or not they are associated with ones occupancy of a particular building or room. If symptoms abate a few hours after leaving a building, it is likely associated with the building and the situation calls for investigation, especially if symptoms are severe or are experienced by many people. If on the other hand, symptoms persist beyond a few hours in different locations such as their home or another building, then it is more likely that the individual(s) are experiencing an illness not associated with a particular building such as a cold or the flu which have similar symptoms to mold allergy symptoms (allergic rhinitis). They could also be suffering a response to molds or pollens in the ambient air and therefore, not associated with a building.

Sampling is often not necessary because visible mold in likely moisture prone areas is readily observed. If found, the type of mold is generally not important as molds can all cause symptoms and their growth is always associated with a moisture/humidity problem that needs to be addressed anyway. For this reason, it has been longstanding University policy to remediate all mold growth according to the NYC (New York City) guidelines which have been adopted in part by USEPA.

The American Industrial Hygiene Association recommends mold sampling when the source of contamination is unclear, if a disease associated with a mold is suspected (this is rare), if litigation is involved and for clearance purposes associated with a remediation in order to ascertain that mold readings are at natural background levels. We have in the past and will continue to perform mold sampling when it is indicated by the above noted conditions.

Even when sampling is performed, it is not possible to correlate results with an individual’s symptoms as everyone has a different level of exposure that their immune system reacts to. This is called a dose response relationship and for the 1000’s of molds in existence, this relationship is not well characterized. While there are guidelines associated with what are considered elevated levels of mold__ usually in comparison to an outdoor background for air samples (which changes from day to day)__ there are no legal OSHA limits for mold in part due to the uncertainty of what the results mean.
While it may sound like this lack of sampling results certainty could be problematic, in practice, it usually isn’t. **This is because mold sources associated with symptoms are usually found upon diligent and sometimes destructive investigation (often by opening up walls).** Since found mold is always remediated, symptoms associated with the mold are eliminated. If symptoms persist, then another source is likely and further investigation is warranted.

We have a lot of investigative tools at our disposal such as a moisture meter capable of detecting high moisture in walls that might not be apparent to the naked eye, and a boroscope for the nondestructive observation behind walls, ceilings and ductwork. Our years of experience in investigation of suspected mold sources and likely growth areas are also invaluable, as we have literally seen it all. EH&S averages about 50 IAQ complaints per year so we investigate about one per week.

For further information or if you are concerned about the air quality in your workplace, contact Dan Derheimer at dderheim@iu.edu or check out our web page at http://www.ehs.iu.edu/topics/indoor-air/index.shtml