SOLUTIONS - Indoor Environmental Consulting
Presents

Indiana IAQ

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About Indiana IAQ:

A new kind of newsletter that addresses the concerns of everyone interested in Indoor Air Quality (IAQ) in Indiana. From the many questions and concerns received this newsletter and the ones to follow are developed from specific concerns. Information is collected and applied this way to the articles published.

Who can write in? *Anyone*! Contractors, mitigation technicians, restoration and remediation technicians, real estate professionals, banks, doctors, lawyers, insurance professionals, investors, anyone with an interest in IAQ.

To submit an idea for an article, write to: IndianaIAQ@solutionsiec.com.

Inside this issue:

MEMBER OF Indoor Air Quality ASSOCIATION INC.

Indoor Asthma and Allergy Triggers

With prominent institutes and organizations like the Institute of Medicine (http://aspe.hhs.gov/sp/asthma/appxh.pdf) and the United States Center for Disease Control and Prevention (www.cdc.gov) stating that asthma and allergies are two of "the most common chronic illness in our Country", affecting millions of Americans, and that the indoor environment plays a major role in these attacks, it is no wonder that complaints of discomfort and disease are on the increase and more and more people are looking to educate themselves on the health effects of indoor air pollution. It is also understandable why so many different professionals are addressing indoor air quality today than ever before.

But not all of the information out there today is trustworthy.

From claims of a cleaning procedure being exaggerated to misdiagnosis of asthma and allergy triggers, many suffer with the discomfort, disease, and the prolonged stress of trying to find relief while dealing with all of the false information.

A dust mite in dog bedding.

During two separate medical synopsis—one held by the American Academy of Allergy, Asthma and Immunology and the other by the American College of Allergy, Asthma and Immunology—doctors, professors and indoor air quality professionals agreed that there are problems that need to be addressed to help bring relief to patients quicker and more specifically and there are ways they can cooperate to bring that treatment and relief to patients quickly.

According to these groups, many today in the cleaning industry see the connection between buildings and health but avoid addressing people and the connection as if it were the plague. They prefer to focus on the . . .

(*read more on page 3*)

Are All Molds Toxic?

Mold comes in many unique and individual classes called species. To-date there are over 100,000 different identified species of mold. While certain species can produce toxins, called mycotoxins, not all can nor will just because they are in your structure.

Mycotoxins are used by producing molds for a specific purpose—the defense of the mold from other organisms and chemicals. It is their way of protecting themselves.

Molds can release these toxins individually or part of a airborne fragment or spore, and can be released during active times of production or during times of agitation, as during cleaning and remediation.

According to Carol Rao, Senior Researcher at the National Institute of . . . (*read more on page 2*)

EMSL Microbiologist Discovers a New Species of Penicillium

A new species of Penicillium was discovered by Dr. Zeljko Jurjevic, a Senior Mycologist from the corporate headquarters of EMSL Analytical, Inc.

After analyzing thousands of fungal cultures, a new species of Penicillium was recently revealed to the scientific community. The fungus was morphologically recognized as a new species and in order to confirm this finding, Dr. Jurjevic traveled to the USDA in Peoria, Illinois where their Penicillium center is located.

Along with Dr. Stephen Peterson, an expert in the field of fungal molecular genetics, they began the necessary DNA comparisons with other similar species existing in the USDA fungal collection in order to establish a new and distinct species.

Dr. Jurjevic named the new fungus, Penicillium cvijetkovicii after his longtime mentor and thesis advisor Dr. Bogdan Cvijetkovic, a well-known and respected plant pathologist from Zeljko's homeland, Croatia.

Additional research by Dr. Jurjevic is continuing and his collaboration with Dr. Peterson has lead to additional potential findings. They plan to have some information on a few other promising new species in the next several months for the scientific community.

"We are very proud of Dr. Jurjevic's important research and findings," reported Joe Frasca, Senior Vice President at EMSL Analytical. "New discoveries in our scientific arena, specifically indoor air quality and microbial analyses, will help all researchers in the environmental and scientific communities," Frasca continued.

EMSL has been dedicated to research and development since its inception in 1981. The laboratory is one of the nation's largest and fastest growing providers of environmental microbiology and chemistry analytical services.

Author: EMSL Analytical, Inc. is a nationwide, full service, analytical testing laboratory network providing Asbestos, Mold, Indoor Air Quality, Microbiological, Environmental, Chemical, Forensic, Materials, Industrial Hygiene and Mechanical Testing services. Visit EMSL at www.emsl.com.

Are All Molds Toxic?

(CONTINUED FROM PAGE 1)

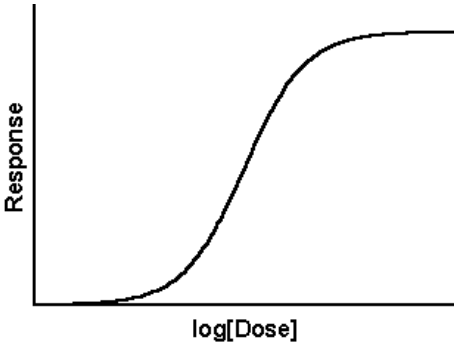
. . . Occupational Safety and Health, "*We know more than 300 species* [of mold] *could produce mycotoxins*", but even if one could find a mold species with the ability to produce these toxins doesn't guarantee the presence of toxins. The United States Environmental Protection Agency, "*Some molds can produce several toxins, and some molds produce mycotoxins only under certain environmental conditions. The presence of mold in a building does not necessarily mean that mycotoxins are present or that they are present in large quantities.*" (Mold Remediation in Schools and Commercial Buidlings, U.S. EPA—www.epa.gov)

Whether or not a mold that can produce mycotoxins will produce mycotoxins depends on several factors, such as the substrate material they are feeding on, their environment's temperature, pH, and the presence of other organisms.

"*Although some mycotoxins are well known to affect humans and have been shown to be responsible for human health effects, for many mycotoxins, little information is available*" says the U.S. EPA.

So, what is known about the health effects of mycotoxin exposure? According to the World Health Organization's new guidelines on indoor air quality: moisture and mould (see issue 1 of our newsletters) "*Although mycotoxins can induce a wide range of adverse health effects in both animals and human beings, the evidence that they play a role in health problems related to indoor air is extremely weak.*" In other words, ingesting these toxins in foods or through the skin can cause ill health effects, but there isn't enough research right now to determine what is true about exposure to indoor airborne mycotoxin exposures and subsequent health effects. Don't take this the wrong way, that doesn't mean all of the effects of mold exposure are hypothetical.

Mold, regardless of it ability to produce toxins, is a source of discomfort and disease for many exposed to it. Consider again that there are over 100,000 identified mold species and many others that have yet been identified (see this issue's article above for example). Of these molds occupants of a building may have various responses to varying concentrations; that is, one person may have a ill-response to a certain dose while another may require a larger dose before sensing a response. Where one falls on the dose—response



curve depends largely on their personal sensitivity to the specific species of mold they are ingesting, inhaling or absorbing.

According to the Institute of Medicine (IOM, "*Damp Indoor Spaces and Health*" 2004) they found sufficient evidence of associations between the presence of mold in damp . . . . (*read more on page 3*)

Indoor Asthma and Allergy Triggers

(CONTINUED FROM PAGE 1)

… building. This limited and often misdiagnosed out-look on occupant health and safety does nothing to aid occupants suffering from indoor environmental asthma and allergy triggers.

In contrast, while occupants recognize the connection between themselves and buildings they often misattribute the connections.

These issues can complicate adjustments in diagnosis or treatment if doctors don't know what kind of indoor exposures their patients are experiencing.

In an effort to combat these obstacles in care, physicians admitted the need for home assessments, but, despite the physicians admitting a lack of building science knowledge, worried that the ones being performed today were improperly investigated and/or poorly interpreted.

Indoors a number of different triggers (instigators of an asthma and/or allergy response) may be working together to elicit a response from a sufferer. When you consider just a few of the triggers of asthma and allergy attacks, it is easy to see how complex the indoor mix of pollutants can become: pet dander, dust, pollen, molds, insects, medicine, foods, and much more. Because our indoor environments can house numerous types and quantities of pollutants, exposure can be through inhalation, ingestion, absorption, injection, stings and bites. This can present a problem when trying to develop an indoor environment that is healthy and easy to live in. It can also complicate identifying areas where you may be exposed to these triggers.

Having too many bushes and trees near the openings of your home can be a source of indoor pollution

An allergy test from your doctor can give you a list of things you are sensitive to, but it doesn't necessary measure your exposure to those items in your home or workplace. Identifying the concentrations of allergy and asthma triggers indoors can show your doctor what you are being exposed to at home or at work, and can be the first step in . . . (*read more on page 4*)

Are All Molds Toxic?

(CONTINUED FROM PAGE 2)

. . . indoor environments and upper respiratory tract symptoms, cough, wheeze, and asthma symptoms in sensitized persons. The IOM also found limited or suggestive evidence of an association between the presence of agents in damp indoor environments and lower respiratory illness in otherwise healthy children.

Those considered sensitized were children whose immune systems had not fully developed yet (usually under six years of age), the elderly whose immune systems were weakening, those with pre-existing medical conditions like asthma or immune system disorders, and those with allergies.

The best way to control exposure is to control the thing necessary for mold growth to begin with—moisture.

In general, "*moisture control in buildings includes measures for choosing building materials and measures for controlling indoor humidity through ventilation*." (WHO) In a moist climate certain building practices may be effective that would injure a similar structure in a dry climate—one method does not protect all! Knowing the effects of building design on building science and mold growth can go a long way in protecting your remodeling, restoration, remediation or other building investments.

Keep in mind that moisture control doesn't mean the elimination of water. "*Many materials can get wet, as long as they dry quickly enough*." (WHO) With that in mind, you should always have any water damage properly and professionally mitigated to assure that your home or office is protected from microbial infestation (see issue 1 article on processing a water damage).

To summarize:

- Some molds can produce toxins, but even those that do require the perfect environment to produce those toxins.
- Health effects of indoor airborne mycotoxins have not been extensively studied and more research is needed to determine its affects on human health.
- Mold, whether it can produce toxins or not, is considered "*a public health problem*" (IICRC S520 Standard & Reference Guide for Professional Water Damage Restoration) because it can cause allergy and asthma responses, infections, and other health complications.
- Rather than fearing whether a mold is toxogenic or not it is better to practice good building hygiene and maintenance, controlling moisture and ventilation, and processing any water damages quickly to avoid elevated mold concentrations indoors.

For more information on mold visit our website at www.SolutionsIEC.com.

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SOLUTIONS
Indoor Environmental Consulting

"Don't let problems with poor indoor air quality take control of your life. Empower yourself with SOLUTONS—Indoor Environmental Consulting—today!"

SOLUTIONS IEC is a truly experienced business that, with over seventeen years of mitigation, restoration, remediation and hygiene practices, can assist you in determining the Category and Condition of the damaged structure; develop a protocol that is real and specific to the structure; and can provide expertise beyond just an inspector's role. Our staff of professionals have been recognized in both indoor environmental consulting (Council-certified Indoor Environmental Consultants) and microbial remediation supervision (Council-certified Microbial Remediation Supervisors) - two of the most prestigious awards in the industry today! Don't let poor IAQ take control of your life. Empower yourself with SOLUTIONS—Indoor Environmental Consulting—toady!

(877) 624-7185

We're on the web!
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Serving the Indiana and Illinois states!

Indoor Asthma and Allergy Triggers

(CONTINUED FROM PAGE 3)

. . identifying what the triggers are that are causing your symptoms, the sources of the triggers, as well as identifying ways of controlling your exposure to those triggers.

Testing for allergens typically involves testing for a suite of pollutants, like some of those listed earlier, but specific tests can be developed upon request.

Hiring a qualified inspector should consist of more than just hiring a cleaning technician to clean the things up you can see.

- During a inspection both air and surface-by-surface investigations should be performed to determine if pollutants are present. Bulk sampling of affected materials and testing of any standing water should also be included.
- If contamination is discovered a written evaluation describing the locations, extent of contamination and recommendations for corrective actions should be given.

Courtesy of the Asthma and Allergy Foundation of America

Depending on what the investigator discovers they may recommend the building owner hire a remediation contractor to remove and clean any contaminated materials that pose a threat to occupant health.

It is important to hire only experienced and qualified professionals for this important task. Be sure to also verify that any samples taken are to be analyzed by an accredited independent laboratory.

If you are in Indiana or Illinois, SOLUTIONS Indoor Environmental Consulting can help. Outside of these states contact a professional either at www.acac.org or www.aiha.org.

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