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Monthly Newsletter

This is the 8th installment of our newsletter. It includes a discussion on cost justification for ERMI Mold Testing, an explanation of Quality Control and Quality Assurance, and information on gaining a Competitive Advantage.

Why ERMI DNA Analysis is Worth the Cost

-Merissa McGraw

Quality Control & Quality Assurance

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Why ERMI DNA Analysis is Worth the Cost

By Merissa McGraw

How many times have you received a Direct Exam report that listed elevated amounts of *Penicillium*/*Aspergillus*-like species? My guess is more than once. Why does this occur? That is because under a microscope *Penicillium sp.* and *Aspergillus sp.* look like little spherical globes of brown, green, and black color. In other words they all look the same. The only way a microscopist can differentiate between genus is if the reproductive structure is still attached which is not always the case. Now you have a report indicating *Penicillium* or *Aspergillus* species; but which is it?

This is where DNA analysis comes into play. The ERMI panel can not only differentiate between the genus of *Penicillium* and *Aspergillus* but can also tell you what species of each is present and in what concentration. This means instead of having the rather ambiguous result of 1,500 *Penicillium*/*Aspergillus*-like spores present you could get a result back of 430 spores of *Aspergillus niger*, 600 spores of *Penicillium brevicompactum*, and 470 spores of *Penicillium chrysogenum*. This may help with locating water intrusion based on where and on what the species present tend to grow.

Another benefit of the ERMI is the guess work of what is good or bad has already been done saving time and energy. Remember time is money. The EPA as part of the Housing and Urban Development's American Healthy Homes Survey created an index of the relative moldiness of homes in the U.S. The ERMI score corre-

lates to the average concentrations of the most common 36 molds found during this study. The EPA also found they could not only take the concentrations of one or two molds and differentiate whether the home was typical or atypical. Instead they noticed they could take groups of molds and compare those for a more accurate description of typical and atypical. These groups of molds are what became the Group 1, or water-impact molds, and the Group 2, or more common outdoor molds. Based on the concentrations of these groups you can tell a lot about the property. For example the concentration of Group 2 molds indicates how often the property is cleaned or based on the Group 1 molds you can tell if there is an active water intrusion event occurring. This could help with deciding whether a good cleaning would resolve the mold issue or whether thousands of dollars of remediation is warranted; again saving time, money and frustration.

Knowing the species present in a home is beneficial from a health standpoint as well. Molds not only cause structural damage to buildings but are also the cause of many health issues. These health risks can range from allergies and skin infections to life threatening endocarditis. The effect of mold-exposure symptoms varies with the individual but immunosuppressed patients are at greatest risk of mycosis. In these cases the client could bring the ERMI report to their allergist or other health care provider in order to narrow down what the cause of certain health issues may be.

For about 100 dollars more you can get so much more information with ERMI analysis. These are just a few examples of

where the extra cost pales in comparison to the value of the information received. For more information on ERMI analysis please feel free to ask.

Quality Control and Quality Assurance

By Lyn Pope

Every two years, labs accredited by the American Industrial Hygiene Association (AIHA) are required to undergo a reaccreditation process. This involves the review of documents, methods, reporting, records, and maintenance. Each of these areas is checked to insure that high standards of quality control and quality assurance are in place. What exactly does this mean?

First let's examine the differences between Quality Control and Quality Assurance. The International Standards Organization (ISO) includes the following definitions in policy module 9000.

Quality Control is the operational techniques and activities that are used to fulfill the requirements for quality. Quality Assurance is defined as all those planned and systematic activities implemented to provide adequate confidence that an entity will fulfill requirements for quality. Quality Control focuses on the delivered lab results. Quality Assurance focuses on the road to those results. Partnered together, they lead to results that are repeatable over and over again.

Laboratories take many steps to provide the quality results. The most important of which is establishing quality program with policies outlined in the form of a

Quality Assurance Manual. This is a detailed description of quality policies and measures in place at the laboratory meant to lead to repeatable results. Quality standards are determined by accrediting bodies such as AIHA and ISO, but most importantly they are determined by the expectations of their clients. Items such as accuracy, repeatability, lack of contamination, and data redundancy are the expectations of responsible labs.

Quality control is used to establish accuracy and reliability. Methods often used in indoor air quality labs to do this include replicate analysis, duplicate analysis, no inoculum controls (NIC), positive controls, references, and blanks. The quality control method used is dependent on the method of analysis. For example, quality control for spore trap analysis is usually done in the form of replicate and duplicate analysis where DNA methods utilize positive controls and a NIC for quality control.

Quality assurance measures are often corrective and preventative actions. It can be looked at as a learning process. Analysts learn from each mistake or foreseen problem that either has or may occur in the lab. Once these have been identified, steps are taken to ensure that the problem will not occur during sample analysis. The key is practice. As the old adage says, "practice makes perfect". In a laboratory, perfection is repeatability. This is achieved through method validation, equipment calibrations, laboratory training programs, and the use of references.

When working with a lab, regardless of the industry, expect the best. The best should be accredited and/or licensed by the industry leading organizations. Licenses and accreditations mean that the lab is subject to industry oversight. A governing body makes sure that quality programs are effectively in place and maintained on a day to day basis. This leads to you, the client, getting the best possible results over and over again.

Competitive Advantage

By Brad Russell

It's important for your business to have a competitive advantage to be successful. If you cannot differentiate yourself from your competitors, why would clients choose you over the other options? It's clear that it's important, but what is a competitive advantage? In short it's a position a company occupies against its competitors. Three types of sustainable competitive advantage exist: cost leadership, differentiation, and focus.

Cost leadership is just what it implies – providing the same service as others at a lower cost. The goal is to maximize profitability so you need ways to provide services at a lower cost while making at least the same amount of money. One of the most popular ways to do this is economies of scale. As the scope of your work becomes greater and more people become involved in the business it becomes less expensive to provide each incremental service. Short term ways to achieve cost leadership include discounts and promotions where they will lead to future business.

Differentiation is providing a greater service at the same price as others. This could include add-ons to inspections, guarantees, insurance, etc. It could also include things such as scheduling availability, guaranteed turnaround time, additional consultation, etc. For a mold remediation job it could be something like a 30-day follow up. Consumers often refer to businesses going 'above and beyond'. When they say this, they are really indicating they noticed a differentiation advantage.

Focus is narrowing the target market to a small segment or niche to better serve that market. By narrowing the scope you

can't reach as many clients but you can serve them more effectively and efficiency. This can also be a form of differentiation advantage for that market. An example of this would be focusing on remediating mold caused by floods versus all types of mold remediation. Expertise is more attractive to prospective clients, but it can be difficult to accomplish in smaller cities. If you're in a larger market it may be easier to specialize and still have the required volume of work. In some businesses it's effective to overlap specialties to achieve focus while still offering breadth of service.

In any business there needs to be a sustainable competitive advantage for long term success. Determining what can set your business apart from others is the first step developing an advantage. Once you implement a plan you need to stay on top of market trends to verify it is not being duplicated or better and if it is you need to adjust accordingly. It's not always easy but it is important.

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