Air and Source Sampling for Mold Compared to Settle Plates

Use the Lift Tape Kit and Toxic Mold Kit for Source Testing (visible mold)
Use the AeroTrap™ Fungal Sampler for Air Sampling (visible or non-visible mold)

Since the early 1900s, the reliability of using settle plates to measure airborne particulates has been questioned. Although the air sampling techniques that were developed and utilized back then may have been primitive compared to our techniques today, it was realized that it was the preferred method for conducting air sampling. While settle plates are still in use today, there are some limitations with the use of this technique as compared to air sampling that are worthy of mention.

The results obtained from settle plates may be biased based on the following information:

Mold spores have different settling rates When collecting indoor samples on a settle plate, the weight and aerodynamics of the mold and it's particulates determine the ones that will settle onto the plate. Molds with smaller spores may be underestimated since the heavier spores will be more likely to fall onto the plate. When collecting the control sample outdoors, the smaller spores may remain suspended in the air if it is a windy day and may not be as likely to settle onto the plate.

Air Disturbance Normal human activity is beneficial for either collection technique, however, air samplers cause additional air disturbance during the collection process while settle plates are totally dependant on the activity caused by human activity.

Viable vs Non-viable Spores Settle plates utilize a culture medium, therefore, non-viable (dead) spores cannot be identified. Stachybotrys, for one, consists of mainly non-viable material. ***Keep in mind that allergy to molds persists even when molds are not viable*** so it is important to identify as many molds as possible.

Single culture medium The type of media that is placed on a settle plate will influence the type(s) of mold that grows out. When a single medium is used, some mold will not be reported out even when they may be present in the air.

Studies support the use of Air Samplers Numerous studies have demonstrated that the Anderson air sampler and Burkhard slit sampler are the most precise in collecting samples as compared to settle plates when comparing results with known amounts of air contaminants. The new AeroTrap™ Fungal Sampler was modeled after the Burkhard slit sampler, a sampler that is regularly used by industrial hygienists to collect air samples in commercial and residential buildings.

A Comparison of an Outdoor Air (Control) Sample and an Indoor Air Sample

It is highly recommended to collect an outside air sample as a control whenever collecting indoor air samples with the AeroTrap™ Fungal Sampler. A comparison between the two sets of results may be beneficial in interpreting the results and determining if there is an indoor problem that requires remediation since mold is not always visible. The following are some things to look for in your comparison:

Indoor mold counts should be less than outdoor counts

The "mix" of molds detected should be similar between indoor and outdoor samples

Predominant outdoor mold found indoors If a mold that is predominant outdoors is detected indoors at a concentration greater than 500 CFU/m^3, this is indicative of a filtration problem or poor housekeeping.

Indoor mold that is not predominate outdoors An indoor mold that is detected and is one that is not predominate outdoors indicates that there is a mold amplification site that must be remediated.* Once remediation has been accomplished, re-sample in approximately three months to make sure that the site has been properly cleaned. A surface sample (Mold Lift Tape Kit) would be appropriate to re-sample the area.

**There are several sites on the internet, including the EPA, that provide guidance for mold remediation. The key to keeping mold from returning to your home is to remove the moisture source. Additionally, hygrometers (available from your local hardware store) are beneficial in monitoring the humidity indoors. Keep the humidity below 50%, if possible.*