



Mold, The Fungus Among Us
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Mold is a ubiquitous organism that shares almost every environment with human inhabitants, and has done so as long as man has been present on the face of the earth. Since this is the case, then why has mold, and specifically toxic mold, become such a huge national issue in recent years and months? What exactly is mold? What effect can it have on our health and on our homes? Is it really something to be feared, and what can one do to minimize the problems associated with mold in a residential environment.

For the purpose of scientific classification, mold belongs to the broad classification of organisms know as fungi. Fungi are defined as eukaryotic organism (organisms having a nucleus) that lack flagella and develop from spores, yeast, mold, rusts, and mushrooms. There are literally thousands of species of mold and they are present practically everywhere. Mold, and mold spores live in the soil, on plants, on dead or decaying matter, and within your home.

What causes mold to grow within a building? In order for mold to prosper, several conditions must first be met. Mold spores must be present; sufficient moisture to allow germination must be present; and a food source must be on hand. We have already determined that mold spores are nearly everywhere, so the elimination of the mold spores themselves is a practical impossibility. We also know that mold can digest almost any source of nutrition, including dust particles and the paper skin that forms the surface of gypsum wall board or drywall. If we cannot eliminate the spores and we cannot eliminate the food sources, in order to break the chain we must eliminate, or at least minimize, the availability of moisture.

Moisture within the home can come from many sources. Leaking pipes and roof leaks, uncontrolled humidity, condensation, and inadequate ventilation can dampen materials within the home sufficiently to support the growth of mold. Weather and flooding, poor landscaping and gutters, improper construction, and inadequate maintenance, can also allow moisture inside of the building envelope. Once moisture is present mold can be found, along pipes and around pipe fittings, in bathrooms, on basement walls, on or around windows, under leaky sinks and water fountains, inside of the HVAC (Heating Ventilating and Air-conditioning) systems, on and behind drywall, on ceiling tiles, and behind wallpaper and vinyl wall coverings.

Telltale signs such as, odors, discoloration, health complaints, and water stains may indicate the possible presence of mold. The signature odors of mold, a “locker room

smell,” or musty, mildewy, fruity, and earthy odors, may indicate mold in unseen locations.

The most effective way to prevent microbial growth is to prevent moisture. Fix leaky plumbing and leaks within the building structure as soon as they become evident; watch for condensation and standing water; reduce humidity in the air to below 60%; properly vent moisture generating appliances; properly maintain HVAC systems, especially those equipped with a built-in humidifier; and maintain proper drainage around the structure. Once materials have become damp, water damage must be dried quickly and completely, within 24-48 hours.

Most molds are not hazardous to the health of the general populous, although someone with a sensitivity to molds can suffer infections, allergies, asthma attacks, and flu-like symptoms, from many common mold varieties. Much of the health related concern raised recently has been over toxic molds that can affect even those not normally sensitized to mold and mold spores. These toxic molds, such as *stachybotrys atra* (*chartarum*), produce and emit mycotoxins that negatively affect the health of nearly all living things. While these toxic molds do present a serious health concern, Toxic molds account for a very small percentage of the overall mold contamination cases in the US.

Most of us can recognize a suspect mold condition when we see it, by relying on past experience. So, if we can recognize mold, is testing necessary? Aseptic testing allows for a positive confirmation of the suspect condition, and also allows for a quantifiable measure that can be compared to background samples, in order to determine if the elevated levels at the suspect condition are indeed abnormally high. Viable culture testing also allows for speciation, which will tell what types of molds are present, and if any of those present emit mycotoxins. Properly trained inspectors can also test for mold within wall cavities and other normally inaccessible areas where mold may grow unseen.

If your property requires testing for mold, several nationally recognized non-profit associations provide training and certification. The American Industrial Hygiene Association (AIHA) and the Indoor Environmental Standards organization (IESO) are two such organizations. Both the AIHA and the IESO require certified inspectors to follow strict sampling and testing protocols in order to guarantee valid testing results.

As with so many conditions, proper construction techniques and preventive maintenance are the key to preventing a mold outbreak in the first place. Should materials within the house become damp, rapid drying will minimize the occurrence of mold. If testing is necessary, make sure that the parties performing the test and the laboratories doing the analysis are certified in the appropriate techniques. Following these few simple steps will minimize mold problems within the home.

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