



# Mold or Mildew in Your Basement

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Are you seeing black, brown or dark spots in your basement? Is there an “odor” or a “musty” smell when you walk downstairs or past your basement door? Is that odor starting to make its way into the upper living areas of your home? If so, you may very well have problems with mold or mildew in your basement.

## WHAT IS THE DIFFERENCE MOLD AND MILDEW?

The main difference between mold and mildew is what the two fungi tend to feed on, how they grow and where you generally find them.

### MILDEW

The “powdery” form of mildew starts out white when it begins to grow, and then can turn yellow, black or brown as it matures. The “downy” form of mildew generally starts out with a “yellowish” color and begins to turn brown as it matures. Mildew is a “surface fungi”, meaning that it tends to live on the surface of a moist living host, like plants or other materials which host microscopic living organisms, or “food”. Mildew is generally considered to be a “parasite”, feeding on other living organisms. FEMA (the Federal Emergency Management Agency) actually considers mildew to be an “early-stage mold”.



Mildew spreads in much the same fashion as mold does, by releasing microscopic “seeds” or “spores” into the air. When the spores land on a surface which is suitable for growth (mildew requires air, food and moisture to exist), the spores begin to grow and spread. In addition, mildew has a “musty” smell which is caused by giving off a “gas” or MVOC’s (Microbial volatile organic compounds), which are a variety of compounds formed in the metabolism of fungi and bacteria (potential health issues are discussed later in this article) . According to the EPA, many of the same health issues that exist with mold exist with mildew.

The damage that is caused by mildew is generally considered to be “cosmetic” unless it appears on a plant or other susceptible host, in which case it may lead to stunted growth or death of the host.

### MOLD

Molds, like mildew, are also fungal microorganisms. Unlike mildew, mold feeds on non-living organic materials. This “non-living” food source is how we determine the fungus is mold instead of mildew. Molds may appear as black “stains” on your walls, floors or block; specks of black, or white, orange, green, black or brown spots on your walls or other materials . In basements where the walls have been treated with waterproofing materials, we often see molds growing under or through those materials.

Molds can be found almost anywhere and they can grow on almost anything if it is moist enough, which is why we often find them in the basement or crawl space. Contrary to common opinion, mold cannot “eat” concrete. It can grow on concrete if there is a suitable food source such as paint, dust, etc., but it cannot “eat” into or through the concrete as a food source.



Mold grows well on paper products, cardboard, ceiling tiles, and wood products. It can also grow on dust, paints, wallpaper, insulation, and drywall, food, carpet, fabric and upholstery. Many building materials provide suitable nutrients that encourage mold to grow. Mold can destroy building materials as easily as it can destroy food, making it a formidable foe. It is believed that only 10% of mold is actually seen, the remaining mold is generally hidden from view in cracks, open spaces, behind walls and under concrete.



Mold is found both indoors and outdoors. Mold spores can enter your home through open doors, windows, vents, and heating and air conditioning systems, on pets or even on your shoes or clothing. When mold spores land or drop on places where there is moisture, food, and air they can begin to grow.

Molds also spread by releasing microscopic “seeds” or “spores” into the air. When the spores land on a surface which is suitable for growth (molds require air, food and moisture to exist), the spores begin to grow and spread. According to the CDC, mold spores begin to grow 24 to 48 hours after landing on a suitable surface. Typically, the spores begin to grow in 3 to 12 days and the mold normally becomes visible in about 18-21 days. When a mold spore lands on a moist organic material, it begins to spread its mycelium into the material. The mycelium is the vegetative part of the mold, consisting of masses of what appear to be thread-like, massing branches, known as hyphae. The hyphae are where the spores, or seeds propagate. Once mold gets a foothold, it releases thousands of spores into the air. Under ideal conditions (optimal temperature and level of humidity), it takes only 24 to 48 hours for mold spores to germinate and grow. As the mold continues to spread, the number of spores released multiplies exponentially unless the growth is stopped. In fact, a [study released by Cornell University](#) suggests that some species of fungi are capable of producing over 50 million spores per minute for each 10 square feet of fungal growth!

## HEALTH CONCERNS

Mildew and mold have three basic means of exposure. You can breathe it in (inhalation), you can swallow it (ingestion) and studies show that you can actually absorb it through your skin (dermal contact) either through cuts or lesions in the skin. Of these three methods, inhalation is of the most concern since we are always taking air into our lungs to survive.

Molds are proven to have the potential to cause health problems. Molds produce allergens (substances that can cause allergic reactions) and irritants. Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic reactions include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash, and they may be immediate or delayed. They can also cause asthma attacks in people with asthma who are allergic to mold. Not everyone is affected in the same way by mold exposure. Some people seem to have no reaction whatsoever, while others can have reactions which are quite severe. Some of the allergy-related problems known to be caused by mold exposure are as follows:

- Rhinitis – While seldom life-threatening, rhinitis attacks can feel like a common cold with similar symptoms, like sneezing, congestion, runny nose and teary eyes. Those who have asthma can have adverse effects since exposures can cause or worsen an asthma attack. Asthma attacks can be life-threatening situations.
- Hypersensitivity Pneumonitis – This is an allergic reaction caused by inhaled or chemical allergens, and when caused by fungi usually occurs after inhalation of very high levels or spores. Symptoms include fever, chills, and labored breathing. If future exposures to the allergen are not prevented, chronic lung disease can result.
- Mycosis – This is a fungal infection, much like athlete’s foot is a fungal infection. Aspergillosis is one example of this, where the fungal infection can invade the respiratory system as well as other internal organs. Aspergillus is a common household mold, and its effects can be serious for people with severe chronic lung disease, those with damaged or compromised immune systems and those undergoing certain experimental treatments for disease.
- Mycotoxicosis – Many species of mold and fungi produce mycotoxins as a way to protect their food sources from competing organisms. The mycotoxins can be very harmful or toxic to humans. Stachybotrys, Cladosporium, Penicillium, Fusarium and Aspergillus – all common forms of household mold – are known to produce mycotoxins which can lead to mycotoxicosis.

## HOW DO I CONTROL MOLD GROWTH?

Mold seeds or “spores” are ever-present in our surroundings both indoors and outdoors. When these spores are carried inside and they begin to grow, they can present major problems for the homeowner. Mold spores cannot germinate and survive with significant moisture levels. The [US Department of Health](#) states that mold needs only a few simple things to grow and multiply:

- Moisture
- Nutrients (air and food source)
- Suitable place to grow

They conclude by stating, *“controlling excess moisture is the key to preventing and stopping indoor mold growth . The [US Environmental Protection Agency](#) claims, “There are many types of mold, and none of them will grow without water or moisture....It is impossible to get rid of all mold and mold spores indoors; some mold spores will be found floating through the air and in house dust. The mold spores will not grow if moisture is not present. If there is mold growth in your home, you must clean up the mold and fix the water problem. If you clean up the mold, but don’t fix the water problem, then, most likely the mold problem will come back.”* <sup>3</sup>

Control the moisture – control the mold. [Click here for more information on mold in your home.](#) Following are some ways to control the moisture levels in your home:

- Promptly fix leaky basements, walls, floors, roofs and windows
- Control the humidity
- Fix pipe and plumbing leaks
- Prevent condensation
- Ventilate shower, bath, laundry and cooking areas
- Increase ventilation

<sup>1</sup> Source Cornell University, Cooperative extension Mold Information Sheet

<sup>2</sup> Source U.S. Department of Health, Environmental Health

<sup>3</sup> Source U.S. Environmental Protection Agency, “A brief Guide to mold, Moisture and Your Home”