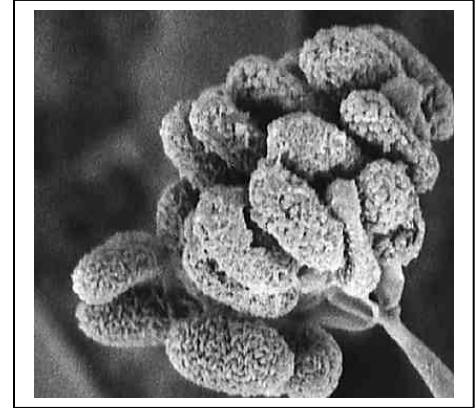
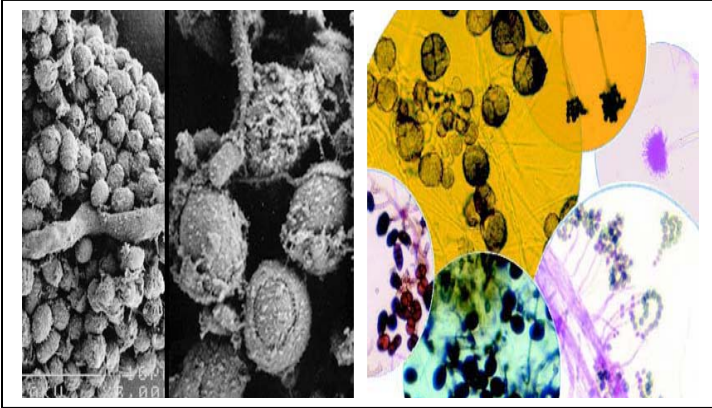




## What is Mold

Molds (and mildew) are fungi. Fungi are neither plant nor animal but, have their own kingdom. Biologically, all fungi have defined cell walls, lack chlorophyll and reproduce by means of spores. There are over 100,000 species of fungi have been described and it is estimated that there are at least that many waiting to be discovered. The vast majority of fungi feed on dead or decaying organic matter - they are one of the principle agents responsible for the natural recycling of dead plant and animal life.

The most common fungi are currently within our environment and we are constantly exposed to them. For the most part, however, diseases caused by these common fungi are relatively uncommon and are rarely found in individuals with normally functioning immune systems. Over the past few years mold has experienced high profile press coverage. There are many reports concerning lawsuits over air quality in homes and buildings, school classroom environments and home insurers refusing to cover mold damage.

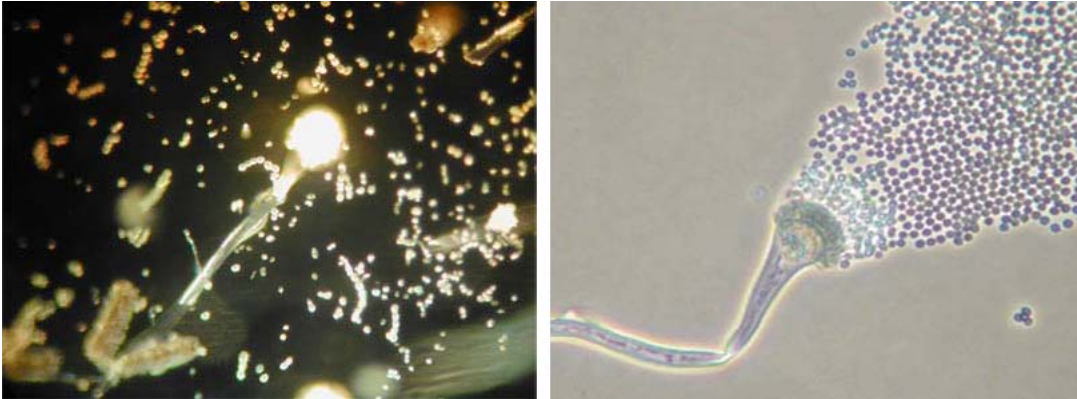


### Critical Requirements

There are four requirements for mold growth;

- a. Mold spores.
- b. Available food source. ( Wood, paper and organic fibers)
- c. Temperature
- d. Moisture

Mold Spores. Mold spores are literally everywhere. There is no reasonable, reliable and cost-effective means of eliminating them from environments that humans inhabit. So, trying to control mold growth through the elimination of mold spores is not feasible.

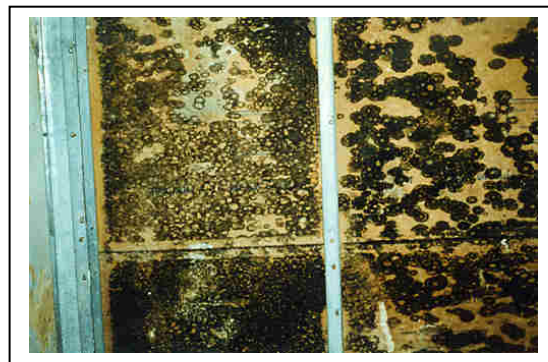


Mold Food. Almost any substance that contains carbon atoms (organic substance) will provide sufficient nutrients to support mold growth. And many of the most common materials found in homes like wood, paper and organic fibers are among the most preferred of mold nutrients. Mold can grow on inorganic materials such as concrete, glass and metal, because it can grow on the dirt or dust that is present. Thus, eliminating mold food from your environment is a virtually impossible task.

Temperatures. Unfortunately, most molds grow very well at the same temperatures that humans prefer. In addition, anyone who has cleaned out their refrigerator quickly realizes that temperatures close to freezing are not cold enough to prevent mold growth and temperatures that are much warmer than humans prefer, like those of the tropics, will grow abundant quantities of mold. Therefore, it is not feasible to control mold growth in our home environment through the control of temperature.

Moisture. The vast majority of mold species require "water activity" levels that are equivalent to material equilibrium moisture contents corresponding to relative humidity's of at least 70%. In fact, the great majority of serious, large mold outbreaks inside buildings occur where porous, cellulose-type materials have literally been kept wet by liquid water or sustained condensation. A change in the humidity level can increase spores in the air. A high relative humidity (RH) can burst the moist, swollen cells of the mold body that form spores. This is true for *Penicillium* and *Aspergillus*, two very common indoor molds. Human

beings prefer humidity's that are below the critical relative humidity for mold growth. Thus, of the four basic requirements for mold growth, moisture availability is by far the easiest mold growth requirement to control in environments that humans like to inhabit. Common household molds have a characteristic "musty" or "earthy" smell, somewhat like the forest floor deep in the woods. Growing colonies of mold can also be visually observed in many cases.



### Wall mold

Although most active mold colonies appear greenish to black (typical of mold growing on bathroom tile grout) in color, the characteristics of mold colonies growing behind vinyl wall covering in buildings takes on very different characteristics. These mold outbreaks typically result in pinkish to yellowish staining of the wall covering. They are quite important because they indicate serious, detrimental moisture accumulations within the gypsum wallboard behind the wall covering that can not be removed by your air conditioning or dehumidification systems. Where these problems appear, they usually require the assistance of a professional equipped with pressure measurement and other diagnostic equipment to determine the source(s) of the moisture causing the problem.