

MOLD, an Evil Enemy or Aggressive Ally?

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Well, it depends.... mold is a fungus.

If all fungi were eradicated overnight, the world we know would be quite different place. There would be no more cheese, no mushrooms, beer, bread, wine, organic decomposition, top soil, antibiotics or even people. All the garbage would be preserved for years. Dead trees would stand for years. Fungus is one of nature's greatest cleanup crews and ecological marvels.

Even the medical community has not officially recognized "toxic mold". Yet, if it is so wonderful, what's all the furor about?

No doubt you have heard about too much of a good thing? Virtually anything can be dangerous in some way or another. We can't live without water, but we can also drown in it. Too much of any kind of fungus can also be a threat to our life and health. It's primarily about keeping things in their right place, wherever that may be.

Where does mold hide?

Fungi are everywhere, inside, outside and all around. They start tiny, so we seldom see them until they find a good spot to grow. Fungi needs three things: a surface to rest on, food and water. They like the dark, but some kinds even grow in daylight.

Surfaces are everywhere, from dust particles in the air to all forms of structure and living beings. Fungi are always in and around all of us. We even take them with us. As long as there is physical creation, fungi will have a home.

Fungi food is everywhere. Virtually anything organic can be devoured. That's "organic" by the chemistry definition – any molecule containing carbon. It has nothing to do with the type of farming or use of gardening chemicals. As long as there is life on this planet, there will be an abundance of food for fungi.

Water is everywhere from the air we breath and exhale to the vast oceans. It has even been known to pour down from the sky. The only good news is that fungi prefer high concentrations of moisture to thrive. Below 50% relative humidity, they tend to fold up their tents and hibernate. Above 60% relative humidity they start feeling downright comfortable and welcome. If they ever decided on an advertising slogan it would probably be something like "We live to eat and procreate."

There is nothing like fresh juicy food and garbage, with plenty of moisture to get them going. Another favorite food is wood. It holds moisture rather well and provides a very concentrated form of nourishment that can last them many generations. Fungi enjoy, possibly, one of the

easiest life styles on the planet – just eat and procreate all you can 24/7, with no bills to pay or maintenance to worry over – truly a life of plenty.

When it gets too dry to continue their party, they just shrink into tight little space capsules called spores, and wait for the next invitation. They even come spring loaded, so when disturbed, they easily launch themselves into the air, looking for the next party site. Once in their little cocoon fortresses, they are almost invincible under normal conditions. About the only things that really threaten them are direct flame, intense ultraviolet rays, concentrated acid, strong alkali or superheated steam. All of these extremes would destroy the surroundings too. Even some of the live ones can be pretty resistant to attack.

A fungus sized view

If we were to shrink ourselves down to fungi size we would find ourselves in a world that makes the worst bug-eyed-monster of science fiction appear tame by comparison. Just imagine, a creature that almost instantly sprouts roots which can enter even the tiniest crack or surface imperfection, sucking up all available nutrients on its way. As the fungus grows, it can multiply its size by a factor of hundreds in hours. Each little piece sticking up in the air can attach itself to any available food. Any piece that breaks off simply starts growing all over again, sucking in everything in its path. It takes very little time for a fungus to start making little missiles of itself to launch outward in search of new territory to devour. It doesn't need teeth. It just dissolves cell walls and sucks them dry.

How to build a fungi farm

Let's see, if we were to design a fungi farm, what would it look like? Wood is great food and strong too, so it would last awhile. Let's chop some wood into pieces, cook it to bring out the sugars, making it even more attractive and make sheets out of it to line the walls and roof.

Now, for the master's touch, take some more wood and grind it nice and fine, cook it even more to render it into the finest culinary delicacy know to fungi – paper – then line the walls and ceilings with it. Sounds better all the time. Someone put a cover on the top, called a roof, to deflect the rain water, but not to worry, pipe some water inside, under pressure, and spray it around every day.

Oh dear, let's not forget the floor. Pour some concrete on the ground and let the water from the roof gather around the edges whenever it rains. That will help bring in more moisture as the concrete acts much like a sponge, and it will give us something to help hold the walls up at the same time.

Does this fungi farm sound a bit familiar? Perhaps this description will help you better understand the overall importance of water and moisture control in home design and maintenance. Any excess moisture in your home invites invasion.

Is mold really a problem?

If you get too much or the wrong kind, you bet! While there may be no such thing as “toxic” mold,” lots of mold residues can put a real crimp in your bodyworks. Just like some mushrooms are friendlier than others, some molds are more offensive than others. A real snoot full can really spoil your day or even week.

However, mold is not the *cause* of home problems, even if it happens to cause you problems. It is the *symptom* of home problems – namely excessive moisture, somewhere, somehow. The real problem is too much water in the wrong place, in your home. Until you fix the real cause, your problem will never end. Mold is just letting you know it is busy munching on the banquet you have provided in your fungi farm.

Identify your mold?

How do you know it is mold? What does it really matter? If you smell it, you have a water problem. If you see it, you have a water problem. Whatever type you may have been growing is still eating your home. You have to fix the water problem.

If you have lots of money and insatiable curiosity, you can have samples taken and a laboratory analysis done to identify it and even have pictures made. Then, you can legally use the “M” word in Texas since you have an official laboratory analysis and identification. You still need to fix the water problem.

After you have identified, located and fixed the water problem, it’s time for remediation. That’s an expensive word for repairs. Less than 10 square feet of mold, and it is a do it yourself project. More than 100 square feet of mold and you are in very serious doo-doo. It is time to call out the licensed remediation people, live elsewhere for months and empty your wallets.

Murder your mold?

Can you kill the little fungi rascals? In a word no, not really. Bleach may put a dent in them, but some live stuff remains, and the spores still continue on. Any bleach residue will instantly give you the added bonus of seriously corroding any steel fasteners or other parts in the area as well. Anything more aggressive will destroy the house.

The only real solution is physical removal. Soap and water is just as effective as anything else on common surfaces. Always wear a dust mask when dealing with fungi. You never benefit in any known way by breathing the spores.

Basic repairs:

Wallboard – replace the wall board. Mold on wallboard grows in, around and through it.

Once attacked, the affected area is trash.

Covering it with paint only encourages growth.

Wood – wipe, then sand down the surfaces to remove visible signs. Some will be left behind, but you took care of the big pieces and fixed

the water problem, right?

Nonporous surfaces – wipe them down with a mild detergent solution.

Books, papers, cloth – trash them.

Hidden fungus

What happens to the air forced through your air conditioner? The first thing it should do is pass through a relatively clean filter to remove the bigger pieces of trash floating in the air. Then it travels along the return air duct, through the blower assembly and furnace to the cooling coil. This is similar to a radiator on a car, in that it has lots of little fins and spaces to help improve the heat transfer. In this case it sucks the heat out of the air passing through. As the air gets cooler it leaves much of the water it was carrying, behind on the cooling coil.

What we have is a very special place with lots of surface, plenty of tiny pieces of dirt and 100% humidity, sitting in the dark – a perfect fungi farm. The only thing slowing it down is the low temperature. When cooling, the coil stays just above freezing. However, between operating cycles, it warms up to room temperature – a perfect fungi farm.

Have you ever heard of the condensate drain line being plugged? Ever had your coil cleaned? Those problems are caused by fungus and its food at work.

By the way, that filter in your return duct is not really for you. It’s for the cooling coil, to help keep it clean. Even the most meticulous housekeepers usually forget to keep the return duct clean, behind the filter. These hidden places treat the air you breathe every day, and need proper care and maintenance too.

The bottom line

Now, when you do your monthly maintenance walk-around, (you do that don’t you?) you will have a better idea what to look for. Any water where it does not belong is a problem. Don’t wait until you have raindrops falling on your head, inside your home, or wet squishy spots show up on your carpet before you check the condition of your single, most expensive investment – your home.

Need some help? Call on a friendly local inspector to help you catch the problems *before* they become monsters eating your house.

Remember, all you need is little water, to activate your own private fungi farm.

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