

MOLD BASICS

Molds (also referred to as mildew) are a part of a diverse subgroup of fungi, a classification that includes rusts, smuts, yeasts, and mushrooms. The term mold usually refers to fungi that appear as woolly or powdery growths on stored foods or in damp areas of the home (commonly bathrooms). Molds are often food spoilers, they can be the cause of some plant and human diseases, and they are nature's organic decomposers in the biotic food chain. Some molds are also used in the production of foods like breads and cheeses; alcohol; and antibiotics.

To grow and thrive, a fungus requires both organic matter and water. The organic matter can be any carbon-based material, anything from plant matter, like cotton or wood, to animal products like leather. Water can be present in many forms as well: humidity, condensation, or standing water, any of these will work as its' moisture source. Fungi can survive in humidity ranges from 0% to 100%, but flourishes between 65% and 85%. Under optimal conditions, a single mold spore can germinate and produce a fungal colony with hundreds of thousands of spores in 4 to 9 days. Most allergenic molds release their spores into the air during dry conditions, anything below 70% humidity. There are a few varieties that prefer highly humid conditions to release spores.

Mold allergies share some similarities to pollen allergies in its symptoms and treatment. However, growth and spore dispersal of many molds are not seasonal like pollens, and most can grow both indoors and outdoors. The difference in exposure time and the wider span of exposure locations can attribute to allergy symptoms persisting for long periods, and/or recurring several times a year.

INDOOR MOLD FACTS

Mold colonies may not be large or colorful enough to be seen with the naked eye. Suspect areas for growth are:

- Rooms where musty or moldy odors are present.
- Areas with poor circulation (basements, closets, summer homes/cabins, boat houses, etc).
- Anywhere there has been flooding, especially in rugs, carpet pads, wood floors, baseboards, wallpaper, and paper backed wall boards.
- Areas subject to persistent dampness (poorly ventilated bathrooms, around plumbing leaks, poorly sealed basements, poorly ventilated clothes dryers, refrigerator drip pans, and air conditioning or dehumidifiers condensation reservoirs).
- Indoor plants and aquariums.
- Stuffed furniture, pillows, mattresses, stuffed toys, wool carpets, stored bedding, stored clothing, and stored paper products (magazines, books, etc).
- Areas of dust/dirt accumulation in the house.
- Mold counts can be very high while vacuuming.

INDOOR AVOIDANCE TACTICS

To decrease chances of having high densities of fungal spores or large numbers of fungal colonies in your home:

- **Decrease water sources:** repair plumbing leaks; seal basement walls; remove plant debris around the house/yard; avoid using mist vaporizers; remove houseplants and aquariums; and use a dehumidifier, silica gel or incandescent lights (small rooms only) to remove excess moisture from the air.
- **Eliminate organic materials that mold grows on:** remove dust/dirt frequently with a vacuum or wet mop; store linens and clothing in plastic storage bags; remove old stuffed toys; furniture, natural fiber carpets and window treatments; use vinyl mattresses and pillow covers; empty and clean refrigerator drip pans, air conditioner condensation pans, and dehumidifier reservoirs frequently; change furnace filters regularly; remove houseplants and natural fiber containers (wicker baskets, hemp rope, etc); and use synthetic textiles for home decor.
- **Filter your air:** use high efficiency mechanical filtration or electronic precipitation filtration. Either method can be added to a forced air system or found in a portable single room unit.
- **Use fungicides:** Unfortunately, there are no long-lasting fungicides safe for indoor use. Common household germicides (Lysol®, Tylex®, etc) can help kill indoor molds. Household bleach used at a 50% dilution up to full strength, can be used in areas it will not damage (basement walls, bathroom floors, etc) to decontaminate when mold appears. And paints with mold retardants added can help prevent growth.

OUTDOOR MOLD SPORES

High concentrations of outdoor mold spores generally are associated with certain conditions or situations:

- During freezing temperatures in the northern latitudes, outdoor air is relatively free from mold spores.
- In late summer and fall dying/decomposing plants can create concentrations of mold spores.
- During periods of intermittent rain and 3 to 4 days after a rainstorm ascomycetes spores may emerge.
- In the spring and fall mushroom spore counts will soar 1 to 4 days after a rainstorm.
- Garden areas especially compost piles, decomposing leaf or plant debris piles, and while mowing the lawn or raking will create high mold spore counts.
- Elevated mold spore counts are common in agricultural areas like barns, silos, baled or stacked hay.
- Colonies may grow on the exterior of a house including windows when the walls are covered by or closely adjacent to growing plants and/or plant debris.

OUTDOOR AVOIDANCE TACTICS

Exposure to high concentrations of outdoor mold spores can be reduced by:

- **Avoiding:** piles of leaves and plant debris, compost piles, raking or mowing lawns, and agricultural areas like barns, grain silos, and hay stacks.
- **Removing:** plant debris around your home, vegetation growing on or too close to your home, and any areas of standing water on your property.
- **Limiting:** time spent outdoors when mold counts are high. Wear a mask during the times you have to be outdoors.

Complete avoidance may not be possible because mold spores are prevalent in so many places, but taking a few basic precautions can help dramatically. For more specific information on the molds that may be causing your symptoms talk with your allergy specialist.