

RESIDENTIAL AND COMMERCIAL MOULD

A guide to understanding mould (rev. 2009)

What is mould?

- Moulds are microscopic fungi, a group of organisms which also includes mushrooms and yeasts
- Fungi are highly adapted to grow and reproduce rapidly, producing spores and mycelia in the process.
- Moulds can grow on food, wood, window sills, paper, fabrics, . . .
- The desired moulds are selected and grown in a controlled fashion (ex. penicillin).
- Moulds are undesirable when they grow where we don't want them, such as in homes, offices, school...
- Over 270 species of mould have been identified as living in Canadian buildings.
- Moulds that grow indoors may be different from the ones found outdoors.

What makes mould grow?

Mould needs three (3) essential parameters to grow:

1. Source of moisture
2. Source of nutrients (ex. cellulose)
3. Source of heat

If we keep things dry, moulds do not grow. High moisture levels can be the result of water coming in from the outside, through the floor, walls or roof; or from plumbing leaks; or moisture produced in homes by the people living in the home through daily activities like bathing, washing clothes or cooking. Water enters the building when there is a weakness or failure in the structure. Moisture accumulates within the home when there is not enough ventilation to expel that moisture.

Different kinds of moulds grow on different materials. Certain kinds of moulds like an extremely wet environment. Other kinds of moulds may be growing even when little water is seen. Dampness inside the material can be enough to allow them to grow.

Why are moulds a concern?

1. **Damage to materials** - Continued mould growth can be indicative of moisture conditions favourable for growth of fungi that cause wood rot and structural damage.
2. **Health** - Health experts indicate that, depending on the type of mould present in a home, the amount and degree of exposure, and the health condition of the occupant, the health effects of mould can range from being insignificant to provoking allergic reactions and illness.

How can you tell if it is mould?

1. **Discoloration** – Mould may be any colour: black, white, red, orange, yellow, blue or violet. However, all discoloration is not due to mould.
2. **Smell/odour** - Sometimes moulds are hidden and cannot be seen. A musty or earthy smell often indicates the presence of moulds. But a smell may not be present for all moulds.

Even when you don't notice a smell, wet spots, dampness discoloration or evidence of a water leak are indications of moisture problems and mould may follow.

Where are moulds commonly found?

Commercial:

Air Handling Unit (AHU) or Heating/Ventilating/Air-Conditioning (HVAC) Systems - Improper maintenance and design of building HVAC systems, such as insufficient cooling capacity for an air conditioning system, can result in elevated humidity levels in a building. These high humidity levels are a perfect growing medium for mould.

Lunch Rooms, Washrooms, etc. – Sinks and dishwashers are common sources for dampness and mould growth. It is important to check these areas for leaks. Furthermore, rotting or spoiling garbage is an area prone to mould growth.

Residential:

Basements/crawl spaces - The basement is the most common location of dampness and mould growth because it is partly below ground level, and cold air that accumulates in the lowest levels often has a higher relative humidity. To add to the problem, basements can be difficult to waterproof and damp proof, and often have inadequate mechanical ventilation.

Laundry areas and Bathrooms – Washing machines, showers, bathtubs and sinks are common sources for dampness and mould growth. It is important to check these areas for leaks. Proper use of ventilation (bathroom fan) will remove a good part of the humidity (during shower or bath) as long as the fan exhausts to the outside.

Kitchen – The kitchen sink and garbage are common sources for dampness and mould growth.

- Leaky plumbing
- Condensation on pipes
- Rotting or spoiling garbage

Other

- Potted plants – soil is good place for mould

Is there a mould problem?

Mould is a natural part of our environment and is found everywhere. People and pets are the largest source of bacteria and mould spores in most occupied environments. Moulds are always found in the air outside and in all buildings. The problem starts when, **in the presence of moisture/water**, mould grows inside the building. Some mould growing, for example on the window sill but not elsewhere, is not a cause of concern. The presence of mould is a sign that there is too much moisture in the building—a situation which must be corrected.

Things to look for when doing a mould assessment . . .

An initial mould assessment does not have to be expensive. Many so called “mould experts” begin with expensive air sampling, bulk sampling, tape lifts, and wipe samples. Sampling for mould as a first step may be regarded as wasted money. You can conduct an initial screening by looking for the following:

- Control for relative humidity, and sources of moisture or water infiltration
- Control for moisture accumulation and condensation
- Verify your sources of water (water damage or potential sources of water such as sinks, bathtubs, window sills, . . .)
- Check roof drainage and look for staining (ceiling tiles, drywall, . . .)
- Limit sources of contamination (plants must be well maintained, ...)
- Prevent structural damage, ...

OTHER OPTIONS:

If you feel you require a structured assessment, then feel free to use **GroupEHS**' Mould Assessment Tool available at www.ittukki.ca, see “On-Line Services”.

If you feel you still require a heightened level of expertise then feel free to contact us for a proposal.

What to do if you find mould...

1. The New York City Department of Mental Health and Hygiene *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*
<http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml#remed>
2. Construction Safety Association of Ontario *Moulds – Workplace Guidelines for Recognition, Assessment and, Control*
<http://www.csao.org/Uploadfiles/ResearchDocument/Moulds%20Workplace%20Guidelines%20for%20Recognition%20Assessment%20Control.pdf>
3. U.S. Environmental Protection Agency (EPA) *Mold Resources*
<http://www.epa.gov/mold/moldresources.html>.