



## NCCEH Mould Investigation Toolkit

### Overview of Typical Fungi

A summary of some characteristics associated with common fungi encountered in microbial investigations is provided in the table below. Additional information on these and other fungi can be found at the following websites:

- EMSL Analytical Inc., Fungal Glossary: <http://www.emsl.com/Page.aspx?id=149> <sup>1</sup>
- EMLab P&K, Index of Some Commonly Encountered Fungal Genera: <http://www.emlab.com/app/fungi/Fungi.po> <sup>2</sup>

**Disclaimer:** The sources listed above do not constitute an endorsement of these laboratories. Other online fungi and bacteria information sources can be found. While we have taken reasonable measures to ensure the reliability and accuracy of this document, the NCCEH and its content providers shall have no liability in relation to the use of information in this document.

**Table 1. Characteristics Associated with Common Fungi**

Fungi Genera / Group	Typically Found	Characteristics						
		Potential Water Intrusion / Indicator Fungi	Potential Mycotoxin Production	Allergen	Hypersensitivity	Documented Health Effects	MVOC Emissions	Agricultural Related Spores
<i>Alternaria</i>	Common in nature. Grows indoors on a variety of substrates including wallboard and painted walls.		√	√	√	√		√
<i>Arthrinium</i>	Normally found growing on plants; rarely found indoors.			√				√
Ascospores	Found everywhere in nature; commonly found in the outdoor environment. Species belonging to this family include: <i>Penicillium</i> , <i>Aspergillus</i> , and <i>Chaetomium</i> . Commonly found growing on damp substrates.	√	√	√	√	√	√	
<i>Aspergillus</i>	Ubiquitous in the environment. Commonly colonizes continuously damp materials (e.g., wallboard, fabric)	√	√	√	√	√	√	√
<i>Aureobasidium</i>	Commonly found in soils. Indoors, commonly found where moisture accumulates (e.g., bathrooms, kitchens, shower curtains, etc.)	√	√	√	√	√		
Basidiospores	Plant pathogens commonly found near vegetation outdoors. This group also includes organisms that are associated with dry, white and brown wood rot, which may destroy the structural wood in a building.		√	√	√	√		√
Bipolaris	Associated with plant debris and soil. It is a plant pathogen, particularly grasses. Can grow indoors on a variety of substrates.		√	√	√	√		√
<i>Dreschlera</i>	Associated with plant debris and soil. It is a plant pathogen, particularly grasses. Can grow indoors on a variety of substrates.		√	√	√	√		√
<i>Botrytis</i>	Commonly found in tropical and temperate climates growing on vegetative matter. May be found indoors associated with plants, fruits, or vegetables.			√	√			

<i>Chaetomium</i>	Found on materials containing cellulose commonly.	√	√	√	√	√		
<i>Cladosporium</i>	Common outdoor fungi. Typically found on dead plants, food, textiles, and a variety of other substrates. Indoors, grows on a variety of substrates (e.g., textiles, wood, windowsills). Can grow at 0°C and is associated with refrigerated foods.		√	√		√	√	√
<i>Curvularia</i>	Found on plant materials. Can grow on a variety of substrates indoors.			√	√	√		√
<i>Epicoccum</i>	Weak plant parasite. Tends to colonize continuously damp materials.		√	√				√
<i>Fusarium</i>	Requires very wet conditions to grow and is frequently isolated from plants and grains. Colonizes continuously damp materials such as wallboard and water in humidifiers and drip pans.	√	√	√		√		
<i>Geotrichum</i>	Normal part of flora in humans. Found in soils, plants, and water. Can grow indoors on cellulose based materials, and foods.			√		√	√	
<i>Memmoniella</i>	Grows on a variety of cellulose containing materials.							
<i>Myxomycetes</i>	Parasitic plant pathogens that require a living host. Rarely found growing indoors.				√			√
<i>Nigrospora</i>	Abundant in warm climates. Rarely found growing inside.			√		√		
<i>Oidium</i>	Plant pathogen not normally found growing inside.							
<i>Penicillium</i>	Ubiquitous in the environment. Commonly found in household dust, wallpaper, decaying fabrics, etc.	√	√	√	√	√	√	√
<i>Periconia</i>	Parasitic plant pathogens that require a living host. Rarely found growing indoors.				√			√
<i>Peronospora</i>	Plant pathogen not normally found growing inside.							
<i>Pithomyces</i>	Commonly found on grass and decaying plant materials. Rarely found inside.	√	√					√
Rusts	Plant pathogens. Only grow on host plants.				√			√
Smuts	Parasitic plant pathogens that require a living host. Do not usually grow indoors.				√			√
<i>Stachybotrys</i>	Commonly found indoors growing on wet materials containing cellulose. May be present and not show up on air sample results.	√	√	√		√		
<i>Stemphium</i>	Rarely ground growing indoors.			√				
<i>Torula</i>	Can grow indoors on cellulose containing materials.			√				
<i>Trichoderma</i>	Found on damp cellulose containing materials.	√	√	√	√	√		
<i>Ulocladium</i>	Requires high water / moisture content to colonize. Typically colonizes continuously damp materials.	√	√	√	√			√

Notes:

MVOC – Microbial Volatile Organic Compounds

Hypersensitivity – A condition in which the body reacts with an exaggerated immune response to a foreign substance (e.g., fungi).

The information provided in this table is for different fungal genera. Not all species within a genera may have all of the characteristics listed in this table.

The absence of a “√” under the characteristics column does not mean that this genera does not have this characteristic. The information on characteristics of individual genera/species is incomplete in the literature. An empty cell indicates only that this genera/species is not known to be associated with this characteristic.

\*References used to generate Table 1 are listed below. [1-3](#)

***This document is part of several in the NCCEH Mould Investigation Toolkit. Production of this document has been made possible through a financial contribution from the Public Health Agency of Canada.***

## References:

1. Environmental Molecular Sciences Laboratory. Fungal glossary. Richland, WA: EMSL Analytical Inc; [cited 2014 Nov 30]; Available from: <http://www.emsl.com/index.cfm?nav=Pages&ID=149>.
2. EMLab P&K. Index of some commonly encountered fungal genera. Marlton, NJ: EMLab P&K; [updated Nov 20 2014 cited 2014 Nov 30]; Available from: <http://www.emlab.com/app/fungi/Fungi.po>.
3. Aerobiology Laboratory Associates Inc. Fungal information sheet. Dulles, VA: Aerobiology Laboratory Associates Inc, Professional Services Directory; 2007.