

Expand Your Business Offerings

Don't:

- Soil the Coil
- Foul the Cowl
- Corrupt the Duct

National Air Filtration Association
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Since 1992,
we have completed more
than 1,500
"sick building
investigations" in
homes, schools,
businesses and offices.

We have taken and
analyzed by
microscopy over
25,000 air and dust
samples.



IAQ Quiz:

The most important function of a high-efficiency filter is to:

- A) Improve the "indoor air quality."
- or
- B) Clean the air by removing particles that can soil the coil.



The filter is supposed to remove dust



What happens when we don't remove dust?

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Most of indoor dust is biodegradable, so:

skin scales

pet dander

pollen

plant materials

corn starch granules

cellulose fibers

become **FOOD** for microorganisms when
the conditions are damp.

Mushroom on a Foundation Wall



Mushrooms are "macrofungi" because the fruiting body is visible.

Fungus Growing on Wood in a Crawl Space



Two Kinds of Fungi: "Macrofungi"



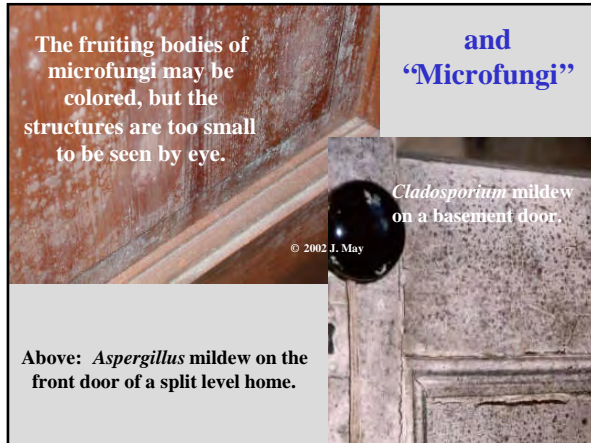
Serpula lacrymans ("dry rot")

Wood-rot fungi hyphae digest the wood into friable, brown cuboidal sections.

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The fruiting bodies of microfungi may be colored, but the structures are too small to be seen by eye.

and "Microfungi"



Cladosporium mildew on a basement door.

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Above: *Aspergillus* mildew on the front door of a split level home.

With a few exceptions,
**Microfungi are
NOT
Wood-destroying
Organisms!**

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Common Mold Genera of Microfungi:

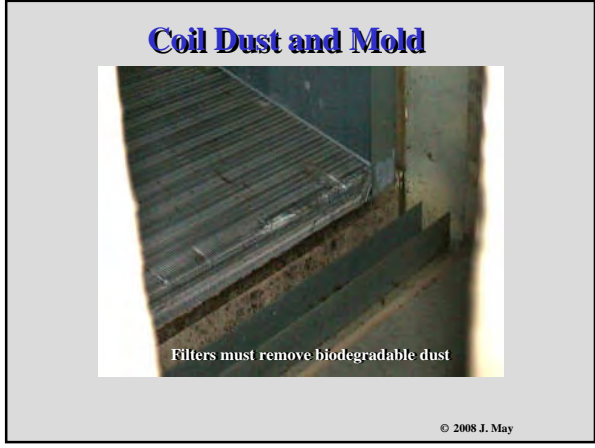
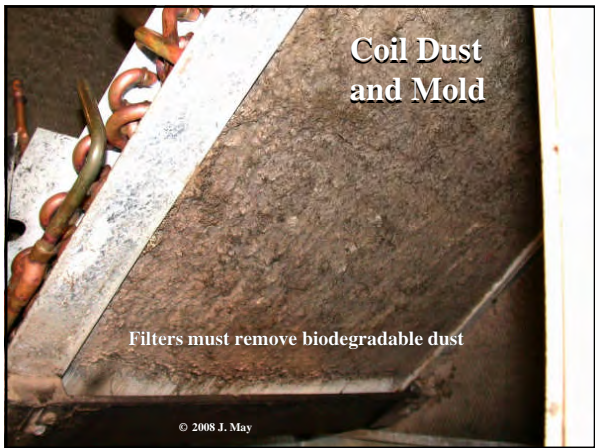
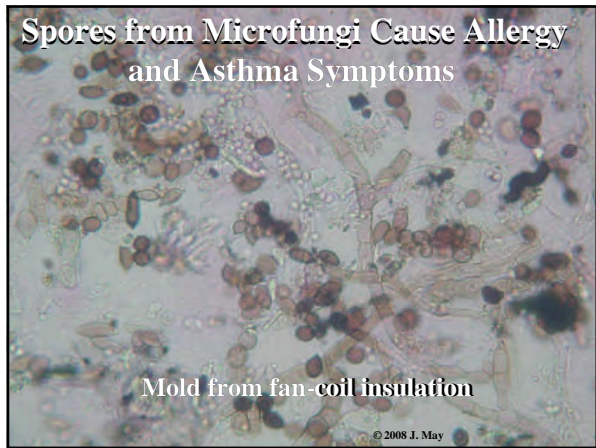
- *Stachybotrys*
- *Aspergillus*
- *Penicillium*
- *Cladosporium*
- *Chaetomium*

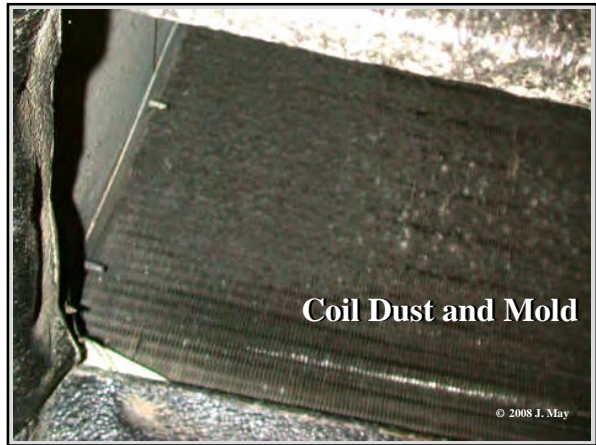
Unlike macrofungi that cause rot, microfungi generally cause ONLY surface decay (excluding *Chaetomium*).

Oxide on Moldy Insulation



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For consumers, improving indoor air quality through filtration is a concern but a choice option.

To HVAC professionals, keeping the coil clean should be a must.

Why Do Fan-Coil Drains Clog?

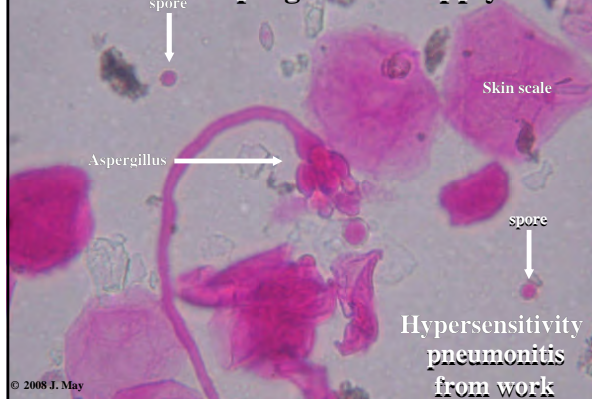


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Microbial growth on coils and fibrous liners is a leading cause of sick building syndrome (SBS).

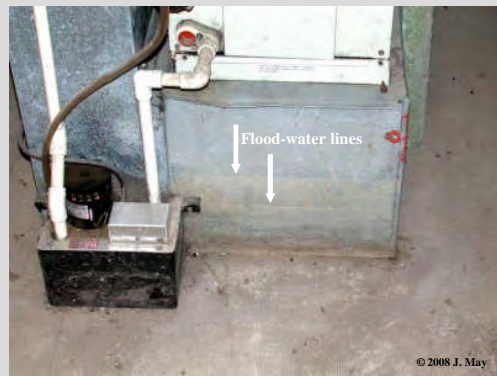
Contaminated HVAC systems can cause allergies, asthma and even life-threatening illnesses like hypersensitivity pneumonitis

Aspergillus in Supply Air



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Heat Pump in Flood-Prone Office Basement



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Heat Pump in Flood-Prone Office Basement



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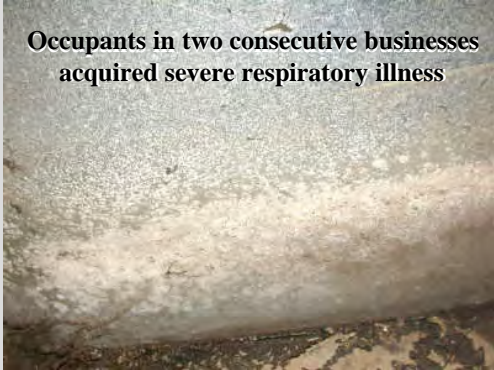
Heat Pump in Flood-Prone Office Basement



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Heat Pump in Flood-Prone Office Basement

Occupants in two consecutive businesses
acquired severe respiratory illness



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Are Filters Doing the Job?



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Are Filters Doing the Job?



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Are Filters Doing the Job?



Oops!

Clever!

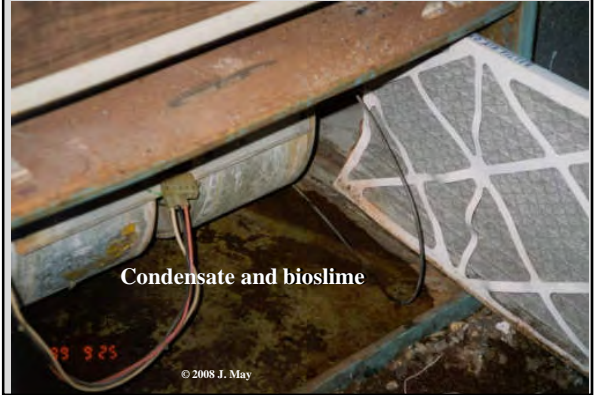
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Mold on a filter frame



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Filter in a Puddle



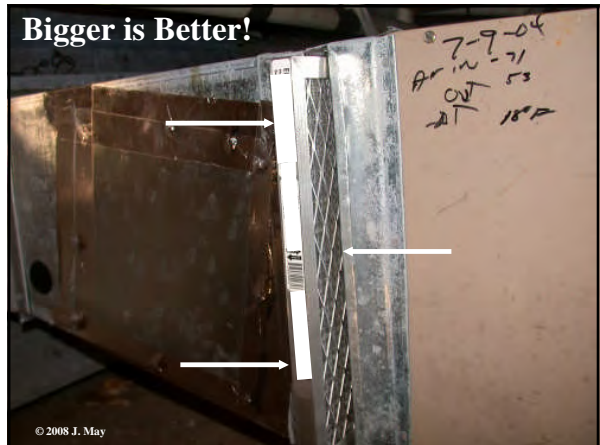
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Filter From Another Puddle



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Bigger is Better!



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R.I.P.

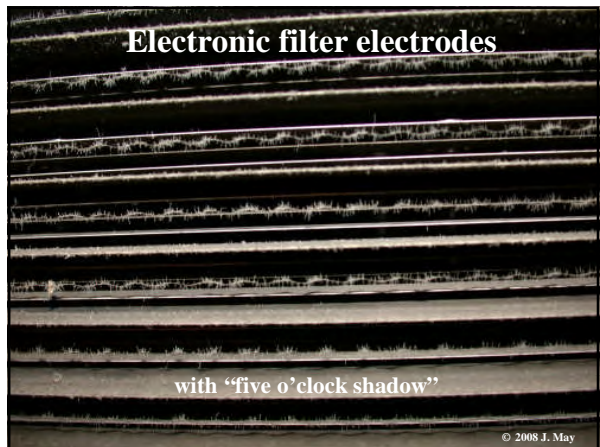
The "fallen"



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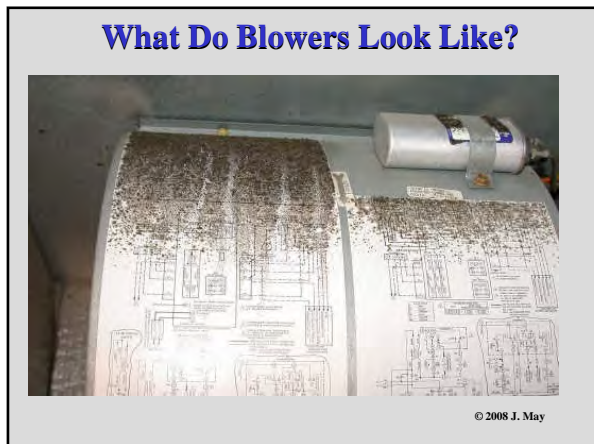
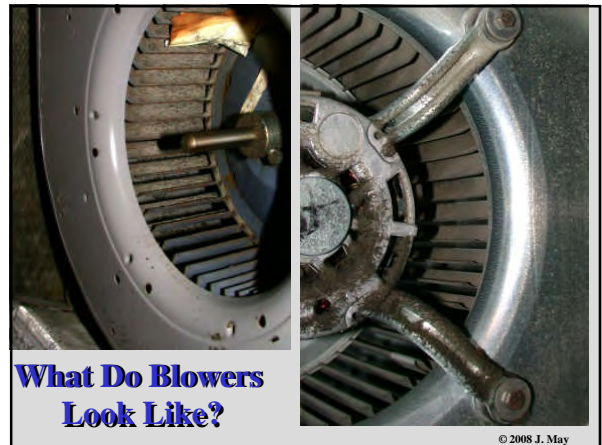
Electronic filter electrodes

with "five o'clock shadow"



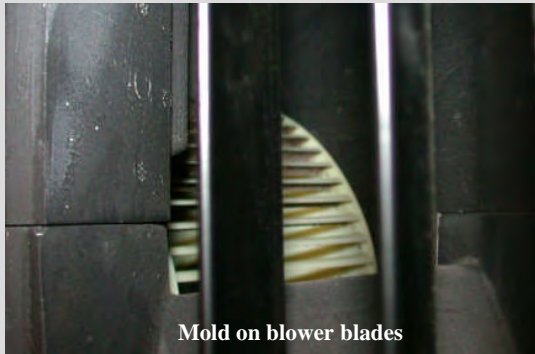
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Let's not Forget Window-A/C Blowers



Mold on blower blades

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For Manufacturers, It's Wake-Up Time. Ladders, cigarettes, liquor and even coffee cups have consumer warnings!

CONTAINS SULFITES - 750ML

GOVERNMENT WARNING: (1) ACCORDING TO THE SURGEON GENERAL, WOMEN SHOULD NOT DRINK ALCOHOLIC BEVERAGES DURING PREGNANCY BECAUSE OF THE RISK OF BIRTH DEFECTS. (2) CONSUMPTION OF ALCOHOLIC BEVERAGES IMPAIRS YOUR ABILITY TO DRIVE A CAR OR OPERATE MACHINERY, AND MAY CAUSE HEALTH PROBLEMS.

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS OF THIS LADDER, MAY RESULT IN INJURIES OR DEATH.

NO LEER Y RESPETAR TODAS LAS INSTRUCCIONES DE ESTA ESCALERA, PODRÍA RESULTAR EN LESIONES Y HASTA EN LA MUERTE.

DANGER/PELIGRO

ELECTROCUTION HAZARD

It's time for air handlers to come with a warning label:

The incoming air must be filtered to avoid microbial contamination. ASHRAE recommends that you use a filter with a rating of at least MERV-8. Failure to maintain filtration can lead to illness.

How About an HRV to Improve IAQ



HRV's are green

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Turn-of-the-Century HRV filter



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HRV

What filter?

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HRV

A grow light for duct perfume

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HRV

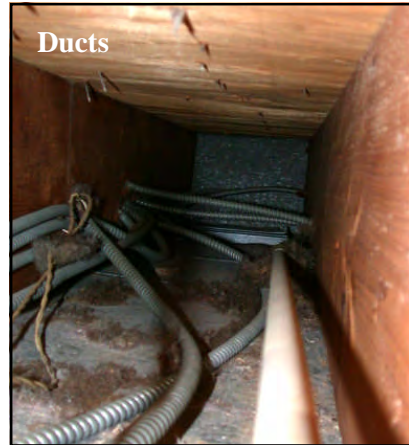
Precision filtration

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The filter industry has to change its pitch.

This industry has to convince the “green” super-efficient energy leprechauns that blowers must be strong enough to support at least MERV-8 (preferably MERV-11) filters.

Another opportunity to expand your business is to recommend, for ducted systems, MERV-3 pre-filters at return grilles.



Ducts

My air

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Ducts

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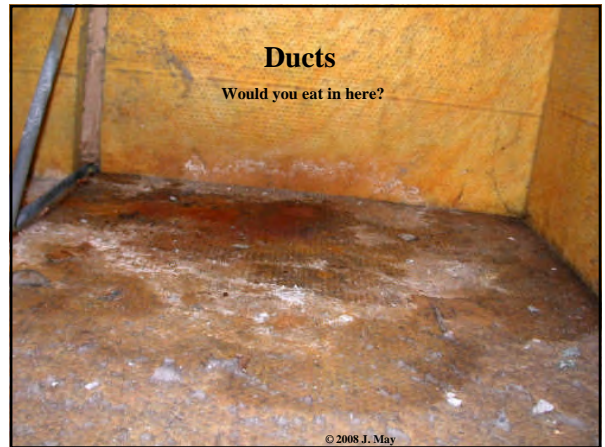
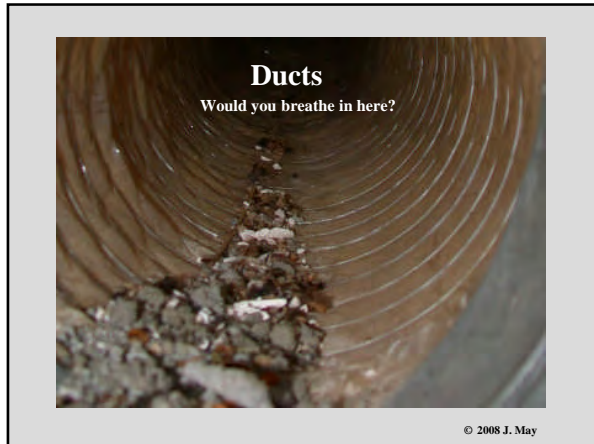


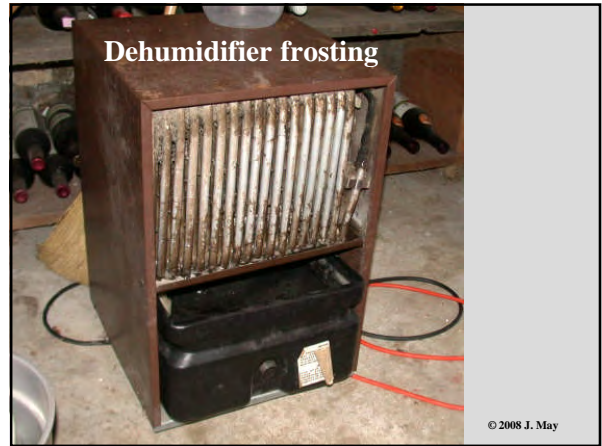
Ducts

Would you breathe in here?

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Summary:
The HVAC industry must be educated on the significance of filtration and the serious health consequences of inadequate filtration.

**NAFA should educate the public of the need for adequate filtration:
 "Don't Soil Your Coil!"**

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 or
B) Clean the air by removing particles that can soil the coil.

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