

Resources on Mold, Mold Allergies and Mold Remediation

Iowa Department of Public Health, Division of Environmental Health
Frequently Asked Questions about Mold

http://www.idph.state.ia.us/adper/common/pdf/mold_facts.pdf

International Building Code [2009]

<http://publicecodes.cyberregs.com/icod/ibc/2009/index.htm>

Iowa City Inspection Checklist for Existing Single Family & Duplex Structures

<http://www.icgov.org/site/CMSv2/file/housing/housingCode/singleChecklist.pdf>

Cleaning Up Mold By Dr. Thad Godish, Ph.D., C.I.H.

http://www.housekeepingchannel.com/a_280-Cleaning_Up_Mold

Confirming fungal systemic exposure

<http://mold-survivor.com/fungalexposure.html>

Background information on molds, exposure, and treatments

<http://www.mold-help.org>

Mold Health Effects & Risks

http://www.advancedmoldinspections.com/health_effects.html

Statement on Building Dampness, Mold, and Health

http://www.cal-iaq.org/phocadownload/statement_on_building_dampness_mold_and%20health2011.pdf

CDC - Facts about Stachybotrys chartarum and Other Molds

<http://www.cdc.gov/MOLD/stachy.htm>

Indoor Mold – Health Effects of Mold

http://www.weather.com/activities/health/allergies/mold/health_effects.html

Asthma and Allergy Foundation of America

<http://www.aafa.org/display.cfm?id=8&sub=16&cont=58>

Mold Remediation

<http://www.lamold.com/removing-mold.html>

Protocols For Treating Furniture and Personal Items That Have Been Impacted with Settled Mold Spores

<http://www.moldservicesgroup.com/furnituremold.asp>

“Surviving Mold: Life in the Era of Dangerous Buildings” by Ritchie Shoemaker, M. D.

<http://www.survivingmold.com/about/ritchie-shoemaker-m-d>

[Home Page](#)

Copyright 2008-2013 by Cliff Missen

INSPECTION CHECKLIST FOR EXISTING SINGLE FAMILY & DUPLEX STRUCTURES

The purpose of the Iowa City Housing Code (IHC) is to "ensure that housing facilities and conditions are of the quality necessary to protect and promote the health, safety, and welfare of not only those persons utilizing the housing, but the general public as well". The purpose of this document is to provide a comprehensive guideline for the inspection of "existing" single family and duplex structures based on the IHC. Residential structures may be subject to the provisions of the IHC, the Uniform Building Code (UBC) and the International Residential Code (IRC). Iowa City first adopted the UBC on July 9, 1956. Various versions of this Code have been continuously adopted since 1956. The IRC was adopted September 1st, 2002. The general rule of thumb regarding "*grand-fathering*" is that structures that met Building Codes in effect at the time of construction are considered to be in compliance or "*grand-fathered*". An example of an exception to *grand-fathering* is smoke detectors. Residential smoke detectors were not required until the 1970 version of the UBC. All dwelling units, regardless of the date of construction, are required to have smoke detectors. Other provisions of the Housing Code may supercede the Building Code in effect at the time of construction and therefore negate *grandfather* status.

The Housing Inspection division also enforces provisions of the Iowa City Zoning and Nuisance Codes. Every residential dwelling within Iowa City, regardless whether it's owner-occupied or rental, has a maximum occupancy limit for roomers depending on, among other concerns, the zone the property is located in and the number of conforming off-street parking spaces provided. The Zoning Code along with the IHC and the UBC/IRC combine in determining maximum occupancy. An example of this is a single-family dwelling located in an RS-8 zone. The zone allows for a maximum occupancy of a family plus one roomer or three unrelated persons provided that one additional off-street parking space is provided for the roomer.

1. 19-A(1)a. STRUCTURE: All structural and associated components (foundation, roof, walls, support members, stairs, sidewalks, etc.) are maintained in a safe and sound condition.
2. 19-A(1)b. STRUCTURE: Structure is maintained in compliance with Building Codes in effect at the time of construction.
3. 19-A(1)c. STRUCTURE: Required occupancy separations between dwellings and between dwellings and attached garages are provided and maintained.
4. 19-A(2) STRUCTURE: All exterior components are maintained in a weather-tight, waterproof, rodent proof and insect-proof condition. Examples are exterior siding penetrations by gas piping, AC line sets, electrical conduit, etc.
5. 19-A(3) DOORS & HARDWARE: All doors and hardware, including storm doors, are maintained in a good and functional condition, fit well within their frame and provide security if required.
6. 19-A(4) WINDOWS & HARDWARE: All windows and hardware are maintained in good and functional condition, and window area meets natural light and ventilation requirements.
7. 19-A(5) INTERIOR SURFACES: All interior walls, ceilings, floors and other interior surfaces must provide a cleanable surface. All public and service areas maintained in a sanitary condition.
8. 19-B ACCESSORY STRUCTURE: Detached garages, sheds are maintained in good condition.
If garage is required parking, the parking use must be maintained.
No vermin harborage. No excessive storage of solid waste.
Detached garages and sheds must meet required setbacks according to the zoning ordinance in effect at the time of construction.
9. 19-C RAINWATER DRAINAGE: Gutters and downspouts are maintained in good and functional condition and direct water away from the structure(s).
Gutters and downspouts secured to the building.
Gutters are free of debris.
Downspout termination has diverter and extension to direct water away from the structure.

10. 19-D GRADING, DRAINAGE & LANDSCAPING: Provides positive drainage, dust control, and eliminates erosion.
 Positive drainage at the foundation away from the bung.
 Ground cover or landscaping to prevent dust/erosion.
 No ponding on site that creates stagnant water.
11. 19-E CHIMNEY/FLUE PIPING: Components properly installed and maintained.
 All vent connectors, flue piping and associated materials must be listed and approved for their intended use.
 Draft diverters and vent connectors are mechanically fastened. Three sheet metal screws per vent connector and draft diverter connection (exception, B vent).
 Positive incline for horizontal run (greater than 45 degree angle from the vent = horizontal) of vent connector, minimum $\frac{1}{4}$ " per foot. Horizontal run of vent connector cannot exceed 75% of the vertical run of vent.
 Type B vents require a bird/weatherproof cap at the termination. Masonry chimney bricks and mortar are in good condition. Minimum clearances are maintained from combustible surfaces.
12. 19-F EXTERIOR SURFACES: All materials subject to rust or rot are protected from the weather and deterioration/decay by paint or other approved exterior surface (aluminum, vinyl or steel siding, trim etc.).
 Treated lumber and wood naturally resistant to decay such as redwood and cedar are not required to be protected.
 Metal roofs, handrails, guardrails need to be maintained rust free.
 Wood surfaces requiring paint need proper surface preparation and both. a primer and finish coating.
 Mold/mildew needs to be treated with mildewcide to kill growth.
13. 19-G EGRESS/EXITING: Every means of egress is maintained in good condition and is free of obstruction.
 Required *escape and rescue* windows are provided and maintained. All structures constructed since July 13, 1971 are required to have *escape and rescue* windows installed for all sleeping rooms.
 If an *escape and rescue* window is below grade an adequate sized exterior window well is provided and maintained.
 No double cylinder deadbolts present on doors.
14. 19-H STORM WINDOWS/SCREENS: Single pane windows are required to have storm windows provided. Required locations for storm windows are all habitable rooms and bathrooms.
 For inter-changeable storms and screens, storms on November 1 and screens on May 1. All openable windows are required to have screens, screen mesh $\frac{1}{16}$ "square.
16. 19-I ELECTRICAL: No hazards from overloading, poor condition, inadequate insulation, improper fusing, and etc. Fixtures and equipment are maintained as manufactured. No unapproved extension cords, multi-plugs or adapters.
 Building service size is adequate.
 All overhead conductors are at least 10' above grade.
 If over-fusing is present in any panel, all fuses must be changed to TYPE S fuses. No exposed energized parts of fixtures, equipment or wiring.
 Wiring installation meets general code requirements for electrical installations. Wiring devices must be listed and approved for their intended use.
 Approved grounding electrode connection is present, including:
 A grounding electrode conductor bonded to the metal water pipe system.
 A bonding jumper at the water meter.
 Grounding electrode connection for cable TV service.
 Grounding electrode connection for telephone service.
 All wire splices are within junction boxes (except original knob and tube splices).
 All outlets test "normal". Outlet replacement must meet NEC standards.
 All light fixtures and other electrical appliances or accessories are maintained as manufactured.
 No plug adapters, socket adapters, or unapproved extension cords or multi-plugs adapters.
 Access maintained in front of electrical panels.
 A switched light fixture or outlet is present for all habitable rooms, bathrooms, laundry room, furnace room, and basement or cellar. The switch must be readily accessible at the entry door.

Every habitable room contains at least two double receptacles spaced at least 25% of the room perimeter apart.

Ceiling fans shall be attached to a fan rated junction box or a framing member and not interfere with smoke detection.

17. 19-J PLUMBING: Installation meets general code requirements for plumbing installation.
 - Fixtures, supply piping and drainage piping are plumbed and maintained in a good and sanitary condition.
 - Fixtures are installed and maintained to manufacturer's instructions.
 - All associated plumbing materials must be approved and used as intended.
 - Water heater and boilers have approved relief valves and extension pipes.
 - Clothes washer has an approved standpipe or drainage into an approved floor or wash sink.
 - Floor drain covers and clean-out caps in place. Other clean-outs are accessible.
 - Adequate water pressure available at all fixtures (15 lbs. residual pressure). Hot water is available at a minimum of 120 degrees F.
 - No cross-connections (between potable water and waste drainage). This may include adapters that connect to the tub spout to create a hand held shower unit.

18. 19-K GAS PIPING/APPLIANCES: Installation meets general code requirements for gas piping installation.
 - Fixtures and supply piping are safely maintained.
 - All associated gas piping materials must be listed, approved and used as intended.
 - A gas shut-off valve must precede flexible connectors.
 - Flexible connectors cannot pass through walls, floors, or ceilings.
 - Gas shut-off valve must be within easy reach of each fuel-burning appliance.
 - Gas appliances prohibited in bathrooms and sleeping rooms (except approved direct vent).
 - Gas appliances in garages must be elevated 18" above the floor, unless sealed combustion direct-vent appliances.
 - Exterior gas piping is treated to prevent rust.

19. 19-L HEATING/COOLING EQUIPMENT: Equipment installed according to applicable requirements.
 - Appliances are properly installed and safely maintained.
 - Service access is maintained.
 - Combustible storage is not within 3' of any fuel-burning appliance unless sealed combustion direct-vent appliances.
 - Adequate combustion/ventilation air provided and maintained for all fuel burning appliances.
 - Combustion/ventilation air ducts have minimum 1/4" mesh at exterior openings.
 - Heating equipment is capable of achieving 68 degrees at a point 3' above the floor in all habitable rooms.
 - Heating equipment is capable of maintaining 65 degrees at a point 3' above the floor in all habitable rooms.

20. 19-M KITCHEN/BATH FLOOR SURFACE: Floor surface is constructed and maintained so that the floor is easily kept clean, dry and in a sanitary condition.

21. 19-N SUPPLIED FACILITY: Required utilities shall function safely and be maintained. Equipment or appliances supplied by the owner (e.g. garbage disposal, dishwasher, built in appliances, vent fans, stove, refrigerator, air conditioning) are installed and maintained in a good, operable, and safe condition.
 - Appliances or equipment not required by the Code may be removed with the permission of the tenants) or between leases.
 - Clothes dryer moisture vent termination cannot have screening of any type.
 - Clothes dryer moisture vent meets minimum code requirements or the manufacturer's installation requirements. Maximum length of plastic flex vent is six feet and cannot be concealed.

22. 19-P PEST INFESTATION: Infestation in one unit, extermination is the responsibility of the occupant. Infestation in two units and/or common areas, extermination is the responsibility of the owner.

23. 19-Q FIRE PROTECTION: Smoke detector(s) and fire extinguisher provided.
 Functioning smoke alarms installed according to manufacturer's instructions on every floor level, in hallways leading to bedrooms, and in all bedrooms.
 Owner's responsibility to supply properly installed and operable smoke detectors at move in. Tenants have the responsibility to maintain smoke detectors operable at all times and replace batteries in smoke detectors when replacement is necessary.
 One 2A 10BC (minimum size) fire extinguisher is required to be provided and properly mounted in an easily accessible location.
 Approved address numerals for premise identification are installed.
24. 19-R HANDRAIL/GUARDRAIL:
 An approved graspable handrail is required for any stair having four or more risers.
 An approved guardrail is required for all stair and pedestrian areas that have an adjacent drop off exceeding 30".
 New or replacement handrails or guardrails must meet current Code specifications.
25. 19-S SEALED PASSAGES: All pipe chases, chutes, and access openings are fire and draft stopped to prevent the spread of fire.
26. 19-T TREES/VEGETATION: Trees, shrubs, and other vegetation are maintained to prevent decay or damage to structures.
 No vegetation contact with building exterior wood surfaces.
 Diseased or dead trees/vegetation must be removed.
 Vegetation obstructing utilities (including gas or electrical meters) must be removed.
 Volunteer tree saplings adjacent to building foundations need to be removed.
 Vegetation obstructing required natural light and ventilation must be removed.
 Vegetation obstructing a public sidewalk must be removed.
 Composting in compliance with the Nuisance Ordinance is acceptable.
27. 19-V(1) EXTERIOR AREA MAINTENANCE: Property yard areas are maintained clean and safe. Violations of the NUISANCE ORDINANCE must be abated: e.g. accumulation of solid waste or noxious materials, diseased or damaged tree or plant material, weeds, stagnant water, vermin and pests, hazardous conditions, and inoperable/obsolete vehicles. Cisterns must be securely covered or filled.
28. 19-V(2) FENCES: Fences are maintained in good repair.
 All fences must comply with the ZONING ORDINANCE.
29. 19-W REFUSE/WASTE FACILITIES: Adequate facilities are supplied and maintained to Code.
 Adequate approved containers (with lids) are supplied.
 Containers must be stored reasonably near the side or backyard.
 Container storage area must be maintained clean.
30. 19-X(1) OVER-OCCUPANCY: A dwelling cannot be occupied by a number of persons greater than allowed by the ZONING ORDINANCE.
 The maximum occupancy varies by zone, parking requirements, use, building classification, and floor area of the sleeping rooms.
31. 19-X(2) HABITABLE SPACE: Only rooms certified as habitable by Housing Inspection may be inhabited.
 All basement and attic sleeping rooms must be provided with approved escape *and rescue* windows.
32. Required off-street parking is provided and maintained.
 Required off-street parking cannot be used as storage (14-6N-1.A.6.)
 Existing non-conforming gravel parking areas can be maintained but not expanded.



Facts about *Stachybotrys chartarum* and Other Molds

- [I heard about "toxic molds" that grow in homes and other buildings. Should I be concerned about a serious health risk to me and my family? \(/mold/stachy.htm#Q1\)](/mold/stachy.htm#Q1)
- [How common is mold, including *Stachybotrys chartarum* \(also known by its synonym *Stachybotrys atra*\) in buildings? \(/mold/stachy.htm#Q2\)](/mold/stachy.htm#Q2)
- [How do molds get in the indoor environment and how do they grow? \(/mold/stachy.htm#Q3\)](/mold/stachy.htm#Q3)
- [What is *Stachybotrys chartarum* \(*Stachybotrys atra*\)? \(/mold/stachy.htm#Q4\)](/mold/stachy.htm#Q4)
- [Are there any circumstances where people should vacate a home or other building because of mold? \(/mold/stachy.htm#Q5\)](/mold/stachy.htm#Q5)
- [Who are the people who are most at risk for health problems associated with exposure to mold? \(/mold/stachy.htm#Q6\)](/mold/stachy.htm#Q6)
- [How do you know if you have a mold problem? \(/mold/stachy.htm#Q7\)](/mold/stachy.htm#Q7)
- [Does *Stachybotrys chartarum* \(*Stachybotrys atra*\) cause acute idiopathic pulmonary hemorrhage among infants? \(/mold/stachy.htm#Q8\)](/mold/stachy.htm#Q8)
- [What if my child has acute idiopathic pulmonary hemorrhage? \(/mold/stachy.htm#Q9\)](/mold/stachy.htm#Q9)
- [What are the potential health effects of mold in buildings and homes? \(/mold/stachy.htm#Q10\)](/mold/stachy.htm#Q10)
- [How do you get the molds out of buildings, including homes, schools, and places of employment? \(/mold/stachy.htm#Q11\)](/mold/stachy.htm#Q11)
- [What should people do if they determine they have *Stachybotrys chartarum* \(*Stachybotrys atra*\) in their buildings or homes? \(/mold/stachy.htm#Q12\)](/mold/stachy.htm#Q12)
- [How do you keep mold out of buildings and homes? \(/mold/stachy.htm#Q13\)](/mold/stachy.htm#Q13)
- [I found mold growing in my home; how do I test the mold? \(/mold/stachy.htm#Q14\)](/mold/stachy.htm#Q14)
- [A qualified environmental lab took samples of the mold in my home and gave me the results. Can CDC interpret these results? \(/mold/stachy.htm#Q15\)](/mold/stachy.htm#Q15)
- [Summary \(/mold/stachy.htm#sum\)](/mold/stachy.htm#sum)

I heard about "toxic molds" that grow in homes and other buildings. Should I be concerned about a serious health risk to me and my family?

The term "toxic mold" is not accurate. While certain molds are toxigenic, meaning they can produce toxins (specifically mycotoxins), the molds themselves are not toxic, or poisonous. Hazards presented by molds that may produce mycotoxins should be considered the same as other common molds which can grow in your house. There is always a little mold everywhere - in the air and on many surfaces. There are very few reports that toxigenic molds found inside homes can cause unique or rare health conditions such as pulmonary hemorrhage or memory loss. These case reports are rare, and a causal link between the presence of the toxigenic mold and these conditions has not been proven.

In 2004 the Institute of Medicine (IOM) found there was sufficient evidence to link indoor exposure to mold with upper respiratory tract symptoms, cough, and wheeze in otherwise healthy people; with asthma symptoms in people with asthma; and with hypersensitivity pneumonitis in individuals susceptible to that immune-mediated condition. The IOM also found limited or suggestive evidence linking indoor mold exposure and respiratory illness in otherwise healthy children. In 2009, the World Health Organization issued additional guidance, the [WHO Guidelines for Indoor Air Quality: Dampness and Mould](http://www.euro.who.int/document/E92645.pdf)  [PDF - 2.52 MB] (<http://www.euro.who.int/document/E92645.pdf>)  (<http://www.cdc.gov/Other/disclaimer.html>). Other recent studies have suggested a potential link of early mold exposure to development of

asthma in some children, particularly among children who may be genetically susceptible to asthma development, and that selected interventions that improve housing conditions can reduce morbidity from asthma and respiratory allergies, but more research is needed in this regard.

A common-sense approach should be used for any mold contamination existing inside buildings and homes. The common health concerns from molds include hay fever-like allergic symptoms. Certain individuals with chronic respiratory disease (chronic obstructive pulmonary disorder, asthma) may experience difficulty breathing. Individuals with immune suppression may be at increased risk for infection from molds. If you or your family members have these conditions, a qualified medical clinician should be consulted for diagnosis and treatment. For the most part, one should take routine measures to prevent mold growth in the home.

How common is mold, including *Stachybotrys chartarum* (also known by its synonym *Stachybotrys atra*) in buildings?

Molds are very common in buildings and homes and will grow anywhere indoors where there is moisture. The most common indoor molds are *Cladosporium*, *Penicillium*, *Aspergillus*, and *Alternaria*. We do not have precise information about how often *Stachybotrys chartarum* is found in buildings and homes. While it is less common than other mold species, it is not rare.

How do molds get in the indoor environment and how do they grow?

Mold spores occur in the indoor and outdoor environments. Mold spores may enter your house from the outside through open doorways, windows, and heating, ventilation, and air conditioning systems with outdoor air intakes. Spores in the air outside also attach themselves to people and animals, making clothing, shoes, bags, and pets convenient vehicles for carrying mold indoors.

When mold spores drop on places where there is excessive moisture, such as where leakage may have occurred in roofs, pipes, walls, plant pots, or where there has been flooding, they will grow. Many building materials provide suitable nutrients that encourage mold to grow. Wet cellulose materials, including paper and paper products, cardboard, ceiling tiles, wood, and wood products, are particularly conducive for the growth of some molds. Other materials such as dust, paints, wallpaper, insulation materials, drywall, carpet, fabric, and upholstery, commonly support mold growth.

What is *Stachybotrys chartarum* (*Stachybotrys atra*)?

Stachybotrys chartarum (also known by its synonym *Stachybotrys atra*) is a greenish-black mold. It can grow on material with a high cellulose and low nitrogen content, such as fiberboard, gypsum board, paper, dust, and lint. Growth occurs when there is moisture from water damage, excessive humidity, water leaks, condensation, water infiltration, or flooding. Constant moisture is required for its growth. It is not necessary, however, to determine what type of mold you may have. All molds should be treated the same with respect to potential health risks and removal.

Are there any circumstances where people should vacate a home or other building because of mold?

These decisions have to be made individually. If you believe you are ill because of exposure to mold in a building, you should consult your physician to determine the appropriate action to take.

Who are the people who are most at risk for health problems

associated with exposure to mold?

People with allergies may be more sensitive to molds. People with immune suppression or underlying lung disease are more susceptible to fungal infections.

How do you know if you have a mold problem?

Large mold infestations can usually be seen or smelled.

Does *Stachybotrys chartarum* (*Stachybotrys atra*) cause acute idiopathic pulmonary hemorrhage among infants?

To date, a possible association between acute idiopathic pulmonary hemorrhage among infants and *Stachybotrys chartarum* (*Stachybotrys atra*) has not been proved. Further studies are needed to determine what causes acute idiopathic hemorrhage.

What if my child has acute idiopathic pulmonary hemorrhage?

Parents should ensure that their children get proper medical treatment.

What are the potential health effects of mold in buildings and homes?

Mold exposure does not always present a health problem indoors. However some people are sensitive to molds. These people may experience symptoms such as nasal stuffiness, eye irritation, wheezing, or skin irritation when exposed to molds. Some people may have more severe reactions to molds. Severe reactions may occur among workers exposed to large amounts of molds in occupational settings, such as farmers working around moldy hay. Severe reactions may include fever and shortness of breath. Immunocompromised persons and persons with chronic lung diseases like COPD are at increased risk for opportunistic infections and may develop fungal infections in their lungs.

In 2004 the Institute of Medicine (IOM) found there was sufficient evidence to link indoor exposure to mold with upper respiratory tract symptoms, cough, and wheeze in otherwise healthy people; with asthma symptoms in people with asthma; and with hypersensitivity pneumonitis in individuals susceptible to that immune-mediated condition. The IOM also found limited or suggestive evidence linking indoor mold exposure and respiratory illness in otherwise healthy children.

How do you get the molds out of buildings, including homes, schools, and places of employment?

In most cases mold can be removed from hard surfaces by a thorough cleaning with commercial products, soap and water, or a [bleach solution \(/mold/stachy.htm#note\)](#) of no more than 1 cup of bleach in 1 gallon of water. Absorbent or porous materials like ceiling tiles, drywall, and carpet may have to be thrown away if they become moldy. If you have an extensive amount of mold and you do not think you can manage the cleanup on your own, you may want to contact a professional who has experience in cleaning mold in buildings and homes. It is important to properly clean and dry the area as you can still have an allergic reaction to parts of the dead mold and mold contamination may recur if there is still a source of moisture.

If you choose to use bleach to clean up mold:

- Never mix bleach with ammonia or other household cleaners. Mixing bleach with ammonia or other cleaning products will produce dangerous, toxic fumes.
- Open windows and doors to provide fresh air.
- Wear non-porous gloves and protective eye wear.
- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental

Protection Agency (EPA) guide titled *Mold Remediation in Schools and Commercial Buildings*. Although focused on schools and commercial buildings, this document also applies to other building types. You can get it by going to the EPA web site at http://www.epa.gov/mold/mold_remediation.html (http://www.epa.gov/mold/mold_remediation.html) <http://www.cdc.gov/Other/disclaimer.html>)

- Always follow the manufacturer's instructions when using bleach or any other cleaning product.

What should people to do if they determine they have *Stachybotrys chartarum* (*Stachybotrys atra*) in their buildings or homes?

Mold growing in homes and buildings, whether it is *Stachybotrys chartarum* (*Stachybotrys atra*) or other molds, indicates that there is a problem with water or moisture. This is the first problem that needs to be addressed. Mold growth can be removed from hard surfaces with commercial products, soap and water, or a [bleach solution \(/mold/stachy.htm#note\)](/mold/stachy.htm#note) of no more than 1 cup of bleach in 1 gallon of water. Mold in or under carpets typically requires that the carpets be removed. Once mold starts to grow in insulation or wallboard, the only way to deal with the problem is by removal and replacement. We do not believe that one needs to take any different precautions with *Stachybotrys chartarum* (*Stachybotrys atra*), than with other molds. In areas where flooding has occurred, prompt drying out of materials and cleaning of walls and other flood-damaged items with commercial products, soap and water, or a [bleach solution \(/mold/stachy.htm#note\)](/mold/stachy.htm#note) of no more than 1 cup of bleach in 1 gallon of water is necessary to prevent mold growth. Never mix bleach with ammonia or other household cleaners. If a home has been flooded, it also may be contaminated with sewage. (See: [After a Hurricane or Flood: Cleanup of Flood Water](http://emergency.cdc.gov/disasters/floods/cleanupwater.asp) (<http://emergency.cdc.gov/disasters/floods/cleanupwater.asp>)) Moldy items should be removed from living areas.

How do you keep mold out of buildings and homes?

As part of routine building maintenance, buildings should be inspected for evidence of water damage and visible mold. The conditions causing mold (such as water leaks, condensation, infiltration, or flooding) should be corrected to prevent mold from growing.

Specific Recommendations:

- Keep humidity levels as low as you can—no higher than 50%--all day long. An air conditioner or dehumidifier will help you keep the level low. Bear in mind that humidity levels change over the course of a day with changes in the moisture in the air and the air temperature, so you will need to check the humidity levels more than once a day.
- Use air conditioner or a dehumidifier during humid months.
- Be sure the home has adequate ventilation, including exhaust fans in kitchen and bathrooms.
- Use mold inhibitors which can be added to paints.
- Clean bathroom with mold-killing products.
- Do not carpet bathrooms.
- Remove and replace flooded carpets.

I found mold growing in my home; how do I test the mold?

Generally, it is not necessary to identify the species of mold growing in a residence, and CDC does not recommend routine sampling for molds. Current evidence indicates that allergies are the type of diseases most often associated with molds. Since the reaction of individuals can vary greatly either because of the person's susceptibility or type and amount of mold present, sampling and culturing are not reliable in determining your health risk. If you are susceptible

to mold and mold is seen or smelled, there is a potential health risk; therefore, no matter what type of mold is present, you should arrange for its removal. Furthermore, reliable sampling for mold can be expensive, and standards for judging what is and what is not an acceptable or tolerable quantity of mold have not been established.

A qualified environmental lab took samples of the mold in my home and gave me the results. Can CDC interpret these results?

Standards for judging what is an acceptable, tolerable or normal quantity of mold have not been established. If you do decide to pay for environmental sampling for molds, before the work starts, you should ask the consultants who will do the work to establish criteria for interpreting the test results. They should tell you in advance what they will do or what recommendations they will make based on the sampling results. The results of samples taken in your unique situation cannot be interpreted without physical inspection of the contaminated area or without considering the building's characteristics and the factors that led to the present condition.

Summary

In summary, *Stachybotrys chartarum* (*Stachybotrys atra*) and other molds may cause health symptoms that are nonspecific. At present there is no test that proves an association between *Stachybotrys chartarum* (*Stachybotrys atra*) and particular health symptoms. Individuals with persistent symptoms should see their physician. However, if *Stachybotrys chartarum* (*Stachybotrys atra*) or other molds are found in a building, prudent practice recommends that they be removed.

Page last reviewed: July 13, 2009

Page last updated: September 18, 2012

Content source: [National Center for Environmental Health](#)

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333,
USA

800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - [Contact CDC-INFO](#)

