



## Understanding Mold & Moisture #4

Water in your home can come from many sources. Water can enter your home by leaking or by seeping through basement floors. Showers or even cooking can add moisture to the air in your home. The amount of moisture that the air in your home can hold depends on the temperature of the air. As the temperature goes down, the air is able to hold less moisture. This is why, in cold weather, moisture condenses on cold surfaces (for example, drops of water form on the inside of a window). This moisture can encourage biological pollutants to grow.

There are many ways to control moisture in your home:

- Fix leaks and seepage. If water is entering the house from the outside, your options range from simple landscaping to extensive excavation and waterproofing. (The ground should slope away from the house.) Water in the basement can result from the lack of gutters or a water flow toward the house. Water leaks in pipes or around tubs and sinks can provide a place for biological pollutants to grow.
- Put a plastic cover over dirt in crawlspaces to prevent moisture from coming in from the ground. Be sure crawlspaces are well-ventilated.
- Use exhaust fans in bathrooms and kitchens to remove moisture to the outside (not into the attic). Vent your clothes dryer to the outside.
- Turn off certain appliances (such as humidifiers or kerosene heaters) if you notice moisture on windows and other surfaces.
- Use dehumidifiers and air conditioners, especially in hot, humid climates, to reduce moisture in the air, but be sure that the appliances themselves don't become sources of biological pollutants.
- Raise the temperature of cold surfaces where moisture condenses. Use insulation or storm windows. (A storm window installed on the inside works better than one installed on the outside.) Open doors between rooms (especially doors to closets which may be colder than the rooms) to increase circulation. Circulation carries heat to the cold surfaces. Increase air circulation by using fans and by moving furniture from wall corners to promote air and heat circulation. Be sure that your house has a source of fresh air and can expel excessive moisture from the home.
- Pay special attention to carpet on concrete floors. Carpet can absorb moisture and serve as a place for biological pollutants to grow. Use area rugs which can be taken up and washed often. In certain climates, if carpet is to be installed over a concrete floor, it may be necessary to use a vapor barrier (plastic sheeting) over the concrete and cover that with sub-flooring (insulation covered with plywood) to prevent a moisture problem.
- Moisture problems and their solutions differ from one climate to another. The Northeast is cold and wet; the Southwest is hot and dry; the South is hot and wet; and the Western Mountain states are cold and dry. All of these regions can have moisture problems. For example, evaporative coolers used in the Southwest can encourage the growth of biological pollutants. In other hot regions, the use of air conditioners which cool the air too quickly may prevent the air conditioners from running long enough to remove excess moisture from the air. The types of construction and weatherization for the different climates can lead to different problems and solutions.

### Moisture On Windows

Your humidistat is set too high if excessive moisture collects on windows and other cold surfaces. Excess humidity for a prolonged time can damage walls especially when outdoor air temperatures are very low. Excess moisture condenses on window glass because the glass is cold. Other sources of excess moisture besides overuse of a humidifier may be long showers, running water for other uses, boiling or steaming in cooking, plants, and drying clothes indoors. A tight, energy efficient house holds more moisture inside; you may need to run a kitchen or bath ventilating fan sometimes, or open a window briefly. Storm windows and caulking around windows keep the interior glass warmer and reduce condensation of moisture there.

Humidifiers are not recommended for use in buildings without proper vapor barriers because of potential damage from moisture buildup. Consult a building contractor to determine the adequacy of the vapor barrier in your house. Use a humidity indicator to measure the relative humidity in your house. The American Society of Heating and Air Conditioning Engineers (ASHRAE) recommends these maximum indoor humidity levels.

### Outdoor Recommended Indoor Temperature Relative Humidity

+20° F.	35%
+10° F.	30%
0° F.	25%
-10° F.	20%
-20° F.	15%

Source: Anne Field, Extension Specialist, Emeritus, with reference from the Association for Home Appliance Manufacturers ([www.aham.org](http://www.aham.org)).

[www.epa.gov/mold](http://www.epa.gov/mold)

For additional information, or to schedule an inspection, please call Jeff @ (608) 434-0790

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