



information resources

"Humidity in the Home"

**Source: Bill McTighe
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Humidity levels are too often overlooked in the home. Improper levels are unhealthy, damage furniture and building components, increase heating costs, and affect our level of comfort. If people would realize the connection between incorrect humidity levels and its effects, more would be concerned about its measurement and control. Some of these effects include: scratchy dry throat, increased allergy symptoms (rhinitis), more frequent colds/infections, general discomfort (comfort index), mold/mildew growth, increased chemical sensitivity, dry skin and throat, and irritating ozone production (tv's, computer's, etc.).

Humidity is simply the level of moisture in the air. Relative humidity (expressed in % or %RH) is a convenient way of expressing the amount of moisture in the air. If the air contains half as much moisture as it possibly could (saturation) it is said to be at 50% relative humidity.

Studies show that humidity may affect three groups of factors which relate to health.: 1) biological contaminants including bacteria, viruses, fungi, and mites 2) pathogens which cause respiratory problems including allergic rhinitis and asthma - and, 3) chemical interactions including ozone production. Some of these factors may thrive at low levels of RH while others may prefer high levels of RH. While many recommend an optimum humidity zone of 40-60%, at Home Environmental, we recommend that humidity levels be maintained between 35 to 45% RH for better control of the dust mite population. Even 35% can be difficult to maintain in the dead of winter - especially if there is no vapor barrier on the home. Dust allergy sufferer's can especially benefit from maintaining proper humidity levels to less than 50% year round in their home.

During the winter months, humidity levels are low (sometimes very low). However, these levels skyrocket during the summer months. Once over 50%-60% humidity, dust mites quietly multiply in significant numbers. Since we are outdoors more often in the summer months, and tend to open our windows most of the time (ventilate), it is not until the winter months before the ill-effects of the humid summer months are realized. Optimally, each home would have a whole-house air conditioner/dehumidifier with controlled ventilation.

Our comfort is significantly affected by temperature and humidity. The high humidity during the summer reduces the rate of evaporation of moisture from our bodies. Since our body relies on that effect to cool itself, without it we feel uncomfortable. In the winter, the air is generally very dry. This causes moisture to be drawn from our skin making us feel even colder. If the home is not humidified in the winter, you could be using more heat energy than necessary. People tend to raise the thermostat in response to feeling uncomfortable. Rather than move the thermostat up and use more energy, the same "comfort" level

can be achieved by raising the humidity level. As you can see from the chart, there are plenty of reasons other than comfort to do so.

To humidify in the fall/winter, use portable warm mist humidifiers with built-in humidistat. Avoid using unhealthful induct whole-house humidifiers. An accurate hygrometer is a handy tool to have in your home to monitor humidity levels (Price: \$10-50).

To dehumidify on hot and humid days, close the windows and use an air conditioner. An electric dehumidifier will work but will increase the ambient temperature a bit. There is a new GE model (Profile) that is quieter than most and attractive. There are non-mechanical dehumidifiers that are perfect for small areas such as closets and cabinets. They include products such as: Dri-out Dome and Moist Ender. The Dri-out Dome has replacement media while Moist Ender is reusable after being dried out in an oven. If you suspect mold growth, there are reliable do-it-yourself mold test kits that you can buy.