

# CRAWLSPACE MOISTURE AND MOLD



H.E.L.P. for Kids

## WHY SHOULD I BE CONCERNED?

It is not unusual for crawlspaces to be damp and moldy -- conditions that can be caused by high



water tables, leaky plumbing, poor drainage, and humid outdoor air. Mold allergens in the crawlspace can move into the living spaces of the home and cause respiratory difficulties in individuals with allergies and asthma. In addition, the moisture and mold in crawlspaces can lead to structural damage of the building.

## FOUNDATION VENTS

Although most building codes require foundation openings to provide ventilation to the crawlspace, these openings may not reduce moisture levels and mold growth in crawlspaces. In fact, in some climates (such as those with high humidity), the additional humid air that they allow to enter the crawlspace may worsen moisture and mold problems.

## CORRECTIVE ACTIONS FOR EXISTING HOMES

The best solutions for these problems are to:

1) *Correct drainage problems:*

Soil should be graded with a slope that drains water away from the outside of the building. Also, missing or disconnected downspouts permit water to splash onto and puddle near the foundation causing leaks or dampness in the foundation and crawlspace. Professional assistance may be necessary for some drainage problems.

2) *Install a ground cover to reduce moisture entry from the soil:* Cover the soil floor in the crawlspace with durable plastic sheeting (such as 6 mil black plastic). Overlap edges of the sheeting approximately 12 inches and anchor with boards, gravel, bricks, etc.

3) *Repair any plumbing leaks.*



If conditions 1 - 3 have been addressed, then foundation vents are not needed and the crawlspace walls can be sealed against entry by air, moisture and pests. The vents are even less desirable in crawlspaces that:

- ② Have ducts, pipes, or air conditioning or heating equipment
- ② Are located in climates with long periods of weather that is:
  - cold (it is a good idea to place thermal insulation on the walls of unvented crawlspaces in a cold climate), or
  - hot and humid.

In crawlspaces with unavoidable or naturally occurring air pollutants (for example, radon), contaminated air can be removed from the crawlspace via air-sealing and depressurizing the space using an exhaust fan that is vented to the outdoors. If the source of contaminated air is the soil (which is the case for radon), it is more effective to depressurize beneath the groundcover (see item 2 above). The installed fan should use less than 90 watts, have a sound rating of less than 2 sones and should not move more than the amount of air it would take to meet the ventilation requirements of the home. *NOTE:* Crawlspaces that have naturally-vented combustion appliances (such as a furnace) should not be depressurized by this method as it may lead to backdrafting of these appliances.

An exhaust fan can also be used to help dry a damp crawlspace and as a temporary measure to keep mold allergens from entering the dwelling. For crawlspaces with extensive mold contamination, a professional with experience in mold cleanup should be contacted.

## PREVENTATIVE MEASURES FOR NEW HOME DESIGN AND CONSTRUCTION

For homes that will be constructed on a site that is unavoidably damp (e.g., drainage techniques will not work), or with other hydro-geological conditions that make an enclosed crawlspace unsuitable, put the building on piers. In this way, the floor of the building now becomes the boundary against heat loss, and air, moisture and pest entry.

Most of the conditions described here will require the assistance of a specialist on crawlspace moisture problems.