# *Fast* Facts

## *about Wood Rot*

**by**
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Those of us who own wood framed wood-sided buildings are often told of the necessity of keeping our structures dry, well painted, and properly maintained. This is good advice! But perhaps we're less aware of the consequences of not maintaining our buildings, or how to address problems if they occur.

It helps to understand that wood is a biological material. All woods are composed of many thick-walled cells that are bonded together, and over time those cells are prone to decay. Since you don't want decay to occur on your "watch," you should understand factors that cause wood to break down, and what you can do to ward off damage.

Moisture-related rot is caused by microscopic, thread-like fungi that move into the wood. Other types of damage can occur when birds such as woodpeckers bore into the material searching for insects, that also can infest wood. Rodents and small mammals can cause damage by burrowing into buildings in search of food or shelter. Some bacteria can weaken wood, and plants growing nearby can discolor and abrade the material. In this article, we'll focus on problems and solutions associated with moisture and decay, commonly known as rot.In another one of our Fast Facts, we talk about ways to repair rot-damaged wood, as well as methods of protecting your wood to avoid future infestation.

Various wood fungi, or rot, given the necessary moisture and air to thrive, will attack the wood's cell walls and destroy enough of them to weaken the wood. There are four primary groups of rot. White rots cause the wood to appear whitish, stringy, and mushy. Brown rots usually cause the wood to break down into brown-colored cubes. Soft rots attack very wet wood, causing the surface to turn into grayish-brown, soft squares. Finally, wet rot grows only in very damp conditions that have 40-50 percent wood moisture content. Unlike the dry rots, wet rot can't extend into dry wood areas. When rots are well advanced, the fungi can produce fruiting reproductive bodies on wood, These spores, when released, are carried by the wind. If they land on vulnerable wood, they may germinate and start another decay cycle.

Once you detect rotted wood, first correct any moisture problems. Most decay fungi need water and oxygen to survive. They flourish in temperatures of 77-90 degrees Fahrenheit. Since it's impractical to deprive wood of oxygen or regulate outdoor temperatures, the best defense is to guard the wood against excess moisture (generally in excess of 25 percent). Keep in mind, though, that all woods need some moisture to avoid becoming dry and brittle. Whenever possible, avoid overexposing wood to sunlight and ultraviolet radiation.

To minimize environmental moisture, first make certain your roof is in good shape and isn't leaking. If you do nothing else for your building, ensuring that it has a sound roof with no leaks is essential. Flashing, especially around chimneys, additions, and roof valleys, should be checked yearly to ensure soundness. Check for water stains on the interior-a sure sign that your roof needs work.

Second, make sure your gutters and downspouts are in good working order. It's actually better to have no drainage system than a poor drainage system. Damaged systems such as failing gutters or missing or misdirected downspouts continually direct water to the same areas, making them candidates for rot. Check your gutters and downspouts to make sure they are not split or broken. Also clear them of debris, which not only can cause the draining water to back up, but can decay the drainage system itself. Check to see that your gutters are sufficient for the surface size of your roof. To do this, observe how well they work during a steady rain. If they've already been cleaned, yet overflow, the gutters may be too small. Make sure that your downspouts are directed well away from the building so that moisture isn't being dumped into the foundation. Soil stays moist for a long time, and if it's in contact with your wood, the wood may eventually rot, attracting insects. Grade the soil so it doesn't touch the wood surfaces of your building and it slopes away from the structure. Keep trees, shrubs and other vegetation that can trap moisture, well away from your building.

**"There are four primary groups of rot..."**

Whole-house ventilation is also important to keep the wood of your home healthy. Make sure there is good ventilation in both your attic and basement. Wood stays drier in a building that can breathe. Also, basement dehumidifiers are good investments. I recommend running them all the time, including the drier winter months, because most dehumidifiers will shut off when not needed.

These simple steps will help keep the wood of your building dry and less vulnerable to rot. Also, now that you've been alerted to what rot looks like, you can be on guard for it, and can stop it as soon as you spot it!

For more information about winning the battle against wood rot, contact the Ohio Historic Preservation Office.

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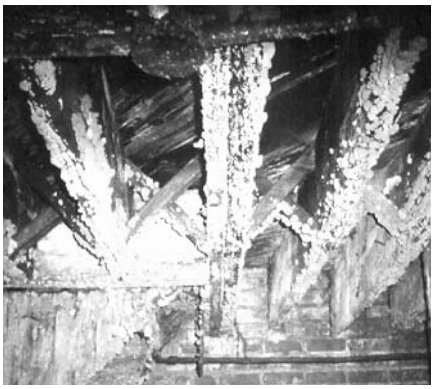

*This is advanced wood rot. Note the fungi's fruiting reproductive bodies on the wood members.*