



**Photo 1:** Lichens have colonized the bark's surface of this beech tree. Contrary to many people's concerns, lichens do not kill plants, but simply grow on the surface of live and dead plants as well as on inanimate objects.



**Photo 2:** This lichen is growing on an asphalt shingle roof. Lichens generally grow where there's some shade and moist conditions. This side of the roof of this building is partly shaded, an ideal environment for lichens; the other side is in full sun and exhibits no lichen growth.



**Photo 3:** This metal roof also has lichens growing on its surface.



## The Plant Doctor's LANDSCAPE TIPS

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### LICHEN!

#### INTRODUCTION:

"She lichens me, she lichens me not". . . , or so goes the variation on the old romantic theme, "She loves me, she loves me not. . ." Every year, one of the more common concerns expressed by the general public is that an awful looking growth is killing their trees and shrubs. That awful growth is often a lichen (Photo 1). Lichens will grow on practically any surface, such as roofs, rocks, trees, shrubs, firewood, etc. (Photos 2 and 3). Yet, we never hear that these awful growths are killing our roofs or rocks! So, are lichens something to be feared? Should lichens be controlled or zapped with some sort of pesticide? Are they really killing our trees and shrubs? Because we often see lichens on dead trees and shrubs, is it safe to assume that the lichen has killed these plants?

#### WHAT ARE LICHENS?

Lichens are an interesting phenomenon in our natural world. Lichens represent a "marriage" between a fungus (mycobiont) and a green alga (photobiont). In a general sense, a fungus (plural: fungi) is an organism such as a mold, more commonly manifested by the mushrooms we see in woods and eat on our pizzas and in our salads. An alga (plural: algae) is represented by that green, filamentous slime we often see in stagnant ponds. There are numerous types of fungi and algae in the natural world. Some of these fungi and algae come together to form that marriage we call "lichen." Actually, there are many types of lichens as well; representing many different sizes, textures and colors. In the lichen household, the alga and fungus form what most scientists believe is a "symbiotic" relationship, which we often describe as symbiosis, but which is more properly termed "mutualistic symbiosis" (both benefit from the association). However, some scientists believe that the fungus actually parasitizes the alga. It is also believed that the fungus provides protection from high light intensity to the alga while the fungus also provides some nutrients to the alga, and vice versa. Scientists have studied and continue to study the unique aspects of the lichens and their rather unusual relationship. Lichens have been used to make perfumes and dyes as well as medicines.

#### MANAGING LICHENS:

To answer the questions in the introduction: no, lichens do not generally harm our trees and shrubs. . . or our roofs or rocks. Lichens are simply using the surfaces of these plants and inanimate objects to carry out their lives in marital bliss—like many marriages, it might get a little tense at times. Even so, after the ugly creature on the trees and shrubs is identified, the next question is, "How do we get rid of them?" The short and correct answer is that we do not need to eliminate them, because they are causing no harm. In fact, scientists often find that the presence of lichens in a particular environment indicates little pollution and other human interferences and contaminants. In other words, lichens are some of the first organisms to be affected by adverse "stuff" in our environment. Their presence often indicates a healthy environment.

But what if we don't want those ugly creatures growing on our expensive new cedar shake roof or on the granite memorial to our favorite cat, Fluffy? Because lichens represent a composite, one of which is an alga, and because we know that algae (and some fungi) are extremely sensitive to the element copper, an occasional spray of a copper fungicide (ex. copper hydroxide, copper sulfate) will gradually eliminate the lichen. A strand of copper wire at the peak of the roof will usually prevent lichens from growing on roofs. Again, lichens are actually harmless if beneficial in many aspects and their elimination is not advised. 📌

For more information, please feel free to email David Roberts at [robertsd@msu.edu](mailto:robertsd@msu.edu) or contact a professional plant health care provider. The author, MSU and MGIA do not endorse any particular products. If using pesticides, be sure to read and follow label directions.