LOUISIANA PLANT PATHOLOGY
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Lichens

Lichens are fascinating organisms. They are composed of two different organisms – a fungal partner and a photosynthetic partner living in a symbiotic relationship.

The photosynthetic partner is either a green alga or a cyanobacterium (blue-green bacterium). Lichens get their nutrients from the food prepared by the photosynthetic partner, and the fungal partner provides the body and shape.

Lichens grow successfully in different environments and geographical areas ranging from arctic to desert. They can grow on almost any surface, including roofs and walls of buildings, rocks, trees and even on iron fence posts as epiphytes (Figure 1).

Lichens have several different growth habits. Some grow flat like a crust (Figure 2) or filamentous like hair (Figure 3) while others are leafy or branched. They come in some of the most vibrant colors, ranging from lime green to bright orange (Figure 4). Lichens grow slowly and may live long. Actively growing lichens are an indication of good air quality, since air pollutants can adversely affect them.

Figure 1. Lichen growing on an iron fence post.

Figure 2. Flat crustlike lichen growing on a citrus branch.

So the question is: Are lichens plant pathogens? And the answer is: No! Lichens are not plant pathogens. They use a tree or another surface as a substrate to grow epiphytically. Lichens are not parasites and do not derive any nutrients from the host they are growing on.

Lichens may grow on healthy as well as stressed trees. They are more noticeable on stressed trees because of the open or thinner canopy. Stressed trees with open canopies allow sunlight to penetrate deep into the canopy, which results in increased growth of lichens. Drought stress, improper fertilization, compact soils, disease or insect pressure or other poor cultural practices may result in poor growth and stressed trees.

Generally, no chemical control is recommended to manage lichens, but residents should avoid any biotic (insects, diseases, nematodes and weeds) or abiotic (nutrients, drought, water logging and compaction) stresses to their trees. Good cultural practices that promote vigorously growing, healthy trees with dense canopies may reduce lichen growth.

Figure 3. Filamentous lichen growing on a blueberry branch.

Figure 4. Lichen with bright orange coloration.

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