Lichens

By Gloria Williams

“What is that gray stuff growing on my apple tree?”

We hear this question a lot at WSU Master Gardener plant clinics—and the answer is lichens (say LIKE-enz). Lichens thrive in the damp climate of the Pacific Northwest, attaching themselves to a variety of solid surfaces and drawing nutrients from the air, rain or fog.

Lichens are the Switzerland of the plant world. They are neutral inhabitants; that is, they are not parasitic and will not harm your tree. They simply use trees as supports, places to call home while they get on with their lives. There are more than a thousand different kinds of lichens that make their homes in Washington, Oregon, British Columbia and Alaska, so ridding your apple tree of them would be a difficult task.

The older your tree grows, the greater the chance that lichens will develop on its surfaces. If you don’t like the way they look, you may be able to discourage them from multiplying rapidly by pruning to open the canopy of your tree to allow more sunlight and air inside (lichens prefer shade). Increasing your tree’s vitality by fertilizing during the active growing season in spring and removing surrounding vegetation, such as shrubs or brush, will open up the perimeter to prevailing winds and create more air circulation around the tree. All of these steps will help to improve your tree’s general health and may slow the lichens’ growth.

Lichens are an interesting group of plants. Actually, they are two plant forms working together to create another form. Fungi and green algae—or, in some cases, a blue-green algae (cyanobacteria)—join forces to colonize their niche in the ecosystem. The algae provide the photosynthesis or food production and the fungus provide protection for the algae. Together they make up the form we call lichens.

It is often said of lichens that they are fungi who have discovered agriculture. They take on many forms: dust or powdery granules, crusts, scales, leaflike lobes, clubs or upright stems, shrub-like branching stems, and hairy branched filaments usually hanging down.

Lichens grow on a wide variety of surfaces: rocks, building walls and roofs, tree trunks and limbs—even on the ground. They grow in areas where conditions are so severe that other plants cannot gain a foothold. They inhabit leftover spots in the natural world that are too harsh or limited for most other organisms. They are the pioneers of bare rock, desert sand, cleared soil, dead wood, animal bones, rusty metal and living bark.

After lichens have covered inhospitable terrain, other plants are able to take root, living on bits of humus and disintegrated rock that the lichens have produced. Mosses and grasses usually are first to cover the lichens. Finally, when enough humus is generated, the seeds of woody plants can germinate. In a few decades, the soil that has been formed can support a forest where once only bare rock stood. Without lichens, much of the

earth’s crust today would be lifeless and devoid of vegetation.

Lichens do more than begin the process of soil production, though. They are considered an indicator of pollution and will die off when subjected to large amounts of airborne pollution. Lichens are so sensitive in this regard, scientists test them to measure pollution levels in an area. The plants are seldom seen in large cities with dense populations and high levels of air pollution, so if you find lichens on your property, you can truly breathe easier.

Those lovable lichens

Lichens benefit humans and the animal kingdom in many ways.

- Iceland moss, a starchy form of lichen, is ground and made into bread
- The most famous edible lichen is Lecanora, which is thought to be the manna of the Israelites
- The compound that is used to make litmus paper comes from lichen
- Fiber artists use some lichens to dye wool and cottons
- Animals such as reindeer, lemmings and other cold-climate creatures eat a lichen called reindeer moss; mountain goats in Southeast Alaska feed on a lichen named Lobaria linita
- Many birds and small animals use lichen as nesting material
- Lacewing larvae camouflage their bodies with lichen fragments so predators can’t see them—and neither can their prey

Several varieties of lichen can be discovered on trees and rocks in Skagit County. A magnifying glass helps you see details, such as the fruiting structures on some varieties. Photo courtesy Jason Miller / Skagit County Master Gardeners

An army of lichen types has colonized this cherry tree, which sustained damage during a heavy snowfall in November 2006. Photo courtesy Jason Miller.

A common sight on fruit and other trees in western Washington, lichens are nonparasitic and won’t directly harm your trees. Photo courtesy Jason Miller.

A variety of lichens cover this rock at the summit of Sauk Mountain, a harsh environment where little other plant life survives. Photo courtesy Jason Miller.