Slug: Ask the Master Gardener
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Are you tired of trying to eradicate mosses from your lawn or garden? If so, consider an alternative: invite the mosses in. After all, mosses are plants too, and they are beautiful in their own right. As George Schenk writes in his informative book, *Moss Gardening*, "Why not relax and welcome Nature's gift? After all, any kind of moss, even the so-called weed, when studied with perception undistorted by prejudice, cannot but be seen as good-looking and probably even an asset where it grows."

Mosses are bryophytes, a group of plants that also includes liverworts and hornworts. Among the many species of mosses, there are types that grow on soil, rocks, concrete, roofs and trees. Mosses do not have a vascular system, the bundles of tubes or vessels in most land plants that conduct water, minerals and sugars. Instead, mosses absorb moisture and nutrients from water that flows over them or settles under them, and the fluids pass from one plant cell to another. They do not have true roots, but grow root-like structures called rhizoids that anchor the plant and absorb moisture.

Mosses reproduce by spores, which germinate and develop into a network of filaments. Buds form on the filaments and send up leafy stalks. Atop the stalks, structures form that contains either one egg or many sperm. Moisture must be present for the sperm to be released. The sperm swim down to an egg, and one sperm fertilizes an egg. An embryo forms and develops into a spore capsule on top of a short stalk with a foot. Spore mother cells inside the capsule divide into spores, which eventually are released and carried by air movement. If a spore lands in a moist place with favorable conditions, it germinates and begins the life cycle again.

In yards and gardens, mosses may be encouraged to form a carpet over moist soil; some species grow best in shade, while other prefer sun. Certain mosses will colonize rocks, concrete sidewalks, tree trunks or wooden structures, softening their contours. Some mosses are green; others display hues of silver, yellow or red.

Japanese gardens often feature swathes of carefully tended mosses, and mosses frequently blanket the soil surface beneath bonsai trees. Some alpine gardeners welcome mosses in their plantings. Containers of all kinds, from seashells to troughs to hollow logs, make good display vessels for mosses.

Gardeners sometimes worry that mosses will displace other plants, but generally, mosses do not compete with grasses or garden plants. However, they do fill in empty spots where a lawn has failed. Mosses thrive in places that are not conducive to grass growth, for example, areas of high acidity, compacted soil, insufficient drainage and excessive shade.

In our area, the recommended time to establish a moss garden is in autumn, after rainfall has saturated the ground. A good way to choose the right mosses for your site is to use the varieties already growing nearby on the same type of surface. If you select several varieties, you will have a better chance that at least one of them will thrive.

Although few controlled experiments have been conducted comparing methods of moss establishment in gardens, there are many anecdotal reports from moss enthusiasts. One method is simply to encourage the mosses that are already growing in the area by pulling out grass and weeds. Another strategy is to choose a site with conditions that are conducive to moss growth (mentioned above), and allow mosses to establish themselves. Remove weeds, rake the area, and wait to see what develops. This may take several years.

If you do not want to wait that long, you can transplant clumps of moss from other areas of your yard, or ask close neighbors for moss fragments from their property. Make sure that both the site surface and the bottom of the moss clump are moist, and then press the clumps into the cleared surface at spaced intervals. If necessary, hold the clumps in place with nails or sticks. Gradually the clumps will spread and grow together. To speed the process, some moss gardeners fill in the spaces between clumps with thick slurry made by mixing together pieces of moss and water in an electric blender.

For more information on moss gardening, visit the Oregon State University bryophyte Web site at http://bryophytes.science.oregonstate.edu/mosses.htm.

This column is written by Washington State University/Skagit County certified Master Gardeners. Questions may be submitted to WSU/Skagit County Extension, 306 S. First Street, Mount Vernon, WA 98273-3805.