

Moss

Selaginella species and others

Host/Site

Mosses can occur in a number of sites in the landscape, including vertical surfaces like walls. They are most likely to be considered problems in lawns or by creating hazards on walking surfaces like sidewalks, patios, or decks. They can also damage buildings by colonizing roofing materials.

Identification/appearance

In lawns, moss appears as a green or yellowish, velvety or rough-textured mat, either distributed throughout the turf or clumping in areas where the grass grows poorly, such as in shade or in damp spots. On surfaces, moss first appears as a dark or green discoloration that if undisturbed grows to a thickness of as much as two inches, dense or fluffy in texture.

Life Cycle

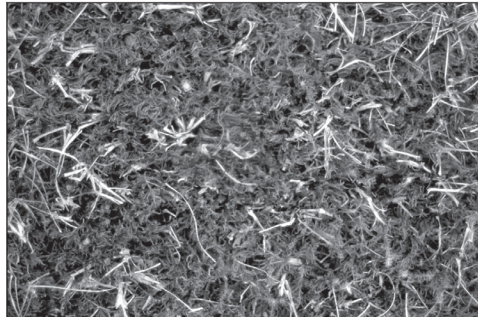
Mosses are tiny plants in the family called bryophytes, which differ from ordinary landscape plants because they lack the vascular system that carries water and food. Dozens of different species of mosses grow in the Pacific Northwest. Mosses generally remain dormant throughout dry weather and revive with rainy cycles, being most obvious in western Washington starting in early winter and reaching their peak of vigor in late spring.

Natural Enemies

Moss generally does not thrive in hot, sunny, dry locations.

Monitoring

Mosses may be confused with other plants, such as algae or lichens, that grow under similar conditions and may coexist. A slippery skin of green algae over decks or patios can also make walking dangerous. **Lichens**, which combine algae and fungi, grow on woody branches but do not harm trees; they may colonize roofs but do not bother turf.



Top: Moss in lawn. Bottom: Moss on roof.
Photos by Philip Dickey.

Action Threshold

Grass: In grass, the action threshold will depend on the uses of the landscape. Unless the turf is serving special purposes, moss can be left alone, being a symptom of poor turf growing conditions. No action need be taken unless a gradual overtaking of the turf is unacceptable.

Walking surfaces: On walking surfaces, moss may pose a safety hazard by making surfaces slippery. Since moss is easier to remove in the early stages of its growth, a periodic maintenance schedule beginning with early fall monitoring may be the best approach.

Cultural/Physical Controls

Turf: The presence of moss in turf usually indicates poor drainage, high soil acidity, too much shade, soil compaction, low soil fertility, or excess moisture. The simplest solution is to tolerate or encourage the moss, especially if correcting the conditions above will be difficult.

Proper turf management procedures are more effective than chemicals alone in controlling moss. Moss returns vigorously even after removal if growing conditions don't change, so efforts will be wasted unless soil, drainage, and light are corrected. If moss must be controlled, the most effective long-term solution is managing for healthy turf by correcting the conditions listed above, since turfgrass and moss thrive in opposite environments. Existing moss can be raked out with a stiff metal rake. If moss is very thick and heavy, a lawn thatcher or power rake will make removal easier. Eliminate standing water by correcting drainage, and fill in low areas. Thin out tree canopies to allow more light. Lime, contrary to common opinion, does not control moss. If the soil pH is too low (below about 5.5), liming can improve the condition of the turf, as will adding a balanced fertilizer with NPK multiple of 3-1-2 according to WSU recommendations. Mow at the proper height. Aerate and overseed areas of turf when thatch builds up.

(continued/over)



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In areas where conditions do not favor turf (e.g., shady, sloped, or too moist), consider using alternative plantings that will take shady, moist but not boggy conditions, such as:

Aegopodium podagraria 'variegatum' (bishop's weed)

Invasive, needs containment.

Cornus canadensis (creeping dogwood)

Vancouveria hexandra (inside out flower, a tough native)

Ajuga sp. (bugleweed)

Epimedium sp.

Galium odoratum (sweet woodruff)

Hostas (dormant in winter)

Fragaria chiloensis (beach strawberry)

Fragaria 'pink panda'

Laurentia fluviatilis (blue star creeper)

Mahonia nervosa (Longleaf Mahonia)

Vinca minor (common periwinkle)

Viola labradorica (violet) Invasive.

Cultural/Physical Controls: Non-Turf

Moss on surfaces such as sidewalks, benches, or decks can be physically removed by scraping or scrubbing. Pressure washing also is effective for sidewalks and decks, but is not advised for roofs because water can get under or damage the shingles. Get at this in early fall

just as mosses begin vigorous growth. Residues can then be treated with moss-killing soap products (see chemical controls below).

During the dry season, a leaf blower can be used to remove moss from a roof.

Biological Controls

None available.

Chemical Controls

Two kinds of chemical control are available for temporary moss control in grass: iron (ferric or ferrous ammonium) sulfate and moss-killing soap. If either is used, soil conditions favoring moss should be corrected. If this is not done, the moss will come back. Both soaps and iron salt products can be highly irritating to eyes and skin and should be mixed and applied with great care according to label directions. Iron products may stain sidewalks or other cement surfaces. Users should be careful to avoid runoff of materials into storm drains or surface water. Moss-killing soaps are toxic to aquatic life but are rapidly biodegradable.

Soap products, made from fatty acids, are also available specifically for moss control on surfaces and offer the added benefit that they clean the surface as they kill the moss. Check the label to be sure not to use on grass a product registered only for surfaces. Other products may contain either zinc or copper sulfates. These are toxic to aquatic life and are not biodegradable.
