

Moss

Description:

Mosses are bryophytes, which are defined by their lack of vascular tissue (tissue designed for circulating liquids), roots, flowers, and seeds. They typically grow in groups to form mats in areas that are damp, shaded, drain poorly, and may be slightly acidic. An individual plant has a central axis with leaves coming from all sides and is anchored by rhizoids instead of roots. Mosses are native to the Pacific Northwest and reproduce by spores.



Impacts:

Moss on roofs is a concern because it can hold moisture on the roof, which can cause leaks and serious damage. It can be a safety concern if spreading over decks, sidewalks, or driveways, causing slippery conditions. Moss in the lawn is purely an aesthetic issue. It does not out-compete other plants, including grass, and can thrive in damp, full-shade and highly acidic conditions that other plants, including grass, do not tolerate.

Control Options:

Integrated pest management emphasizes manual, cultural, and biological techniques to keep pests and vegetation problems low enough to prevent damage. When chemical control is considered, the least toxic product is recommended when no other control methods would be effective or practical. ***Moss control can be effectively accomplished using manual and cultural techniques.***



► **Cultural / Habitat**

In the lawn: Moss in lawns is a sign that growing conditions are not ideal for grass. This may be because of low soil fertility, acidic soil, or poor drainage. To improve soil fertility so that grass can out-compete the moss, increase organic matter by adding compost or organic fertilizer. If a soil test indicates that the soil pH is below 6, add lime to create a less-acidic soil. Increase sunlight by pruning trees and shrubs to create a healthy lawn that can out-compete moss. Water the lawn deeply but infrequently, over-watered lawns are more susceptible to weeds, including moss. Lawns need only 1 inch of water per week, including rain.

On roofs, decks, sidewalks, etc.: Remove branches and vegetation that touch or overhang roofs or areas where moss growth is a safety concern. Remember that moss does well in deep shade, anything that you can do to add sunlight and drier conditions to an area prone to moss will help control its growth. If you are replacing your roofing material and have an ongoing moss problem, consider a metal topped roof. Metal roofing material is too smooth for moss to grow on and likely will never need replacing.

► **Manual / Mechanical**

In the lawn: Moss in lawns can be removed with vigorous use of a de-thatching rake. After moss is removed, reseed the area with shade tolerant grasses (like fine fescues) that are well suited for the Pacific Northwest. However, turf growing conditions must be improved or the moss will return. Improve drainage by de-thatching and aerating, adjust soil to about a pH = 7 by adding lime, increase sunlight to the area by pruning trees that shade the area.

On roofs: BE CAREFUL! If moss grows on your roof, clean it at least in the spring and fall to prevent the moss from getting established. Prune back branches that overhang or shade your roof, and remove leaves, pine needles, and branches. Moss can be removed from roofing material with a garden hose or swept off with a wet broom. Pressure washers can be used but are not recommended due to their potential to damage roofing material. When cleaning roofs, start at the top and work your way down. If you are uncomfortable with heights or have a steep roof – hire a professional.





On decks, sidewalks, etc.: Pressure washing or using a push broom, wire brush, or flat-edged shovel are all effective in removing moss from hard surfaces.

► **Biological**

There are currently no known biological controls for moss.

► **Chemical**

In the lawn: Chemical control will have only short-term effects on moss in lawns. The soil conditions that favored moss to begin with must be addressed, otherwise moss will simply return. Also, using a chemical product to kill moss still requires that the moss be removed by hand after it has turned black and died.

Ferric sulfate and **ferrous sulfate** are active ingredients in products that are recommended as low hazard chemicals for moss control in lawns.

On roofs and decks: **Potassium salts of fatty acids** and **ammonium salts of fatty acids** are active ingredients that are considered low in hazard and can be found in products that control moss. **Metallic zinc strips** are also available for installation on roofs for a long term solution to help prevent moss growth.

Timing

Early October is a good time of year to renovate lawns and correct the problems that create ideal moss growing conditions. Manual removal of moss on roofs is most easily achieved before it is well established. Evaluate your roof throughout the year and remove small patches as they appear.

READ AND FOLLOW ALL PESTICIDE LABEL DIRECTIONS AND RESTRICTIONS. All chemical control products can cause harm if not used properly.

REFERENCES:

Whitcher, Steve. 1996. Moss Control in Lawns. gardening. wsu.edu/library/lawn033

Cox, Caroline. 2001. Coping with a Mossy Roof. Journal of Pesticide Reform 21 (1):12-13

http://www.watoxics.org/files/moss.pdf/at_download/file

Northwest Coalition for Alternatives to Pesticides. <http://www.pesticide.org/RoofMoss.html>

Methods of Moss Control. <http://bryophytes.science.oregonstate.edu/page18.htm>

Koning, Ross E. "Bryophytes". Plant Physiology Website. 1994. http://www.biologie.uni-hamburg.de/b-online/library/plant_biology/moss.html (3/2008)



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