Moss In My Landscape

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Moss growing happily on rocks near the shores of Lake Michigan in Wisconsin.

What can I spray to get rid of moss in my lawn, or on my tree trunks or my roof shingles and what is causing it to grow so much? Although you can find moss herbicides, ***I do not recommend it!***

It' s a mistake to think that moss is an alien invader which competes with and ruins trees, roofs, or grass. There is nothing further from the truth. Mosses have been around on our planet for 400 million years, in fact they are the oldest living plants on land, and they've learned to survive and adapt to conditions where other plants cannot grow. They are not competing with or killing anything in your yard. Moss, wherever it grows, is doing its job making the earth hospitable for flowers, trees and for us.

Much of what I am sharing here is found in a great book called *Gathering Moss,* by Robin Wall Kimmerer. Don't let the subject deter you, the book is lyrical, metaphoric, and a thoroughly enjoyable read.

Photo by: Gilbert A Smith

Moss grows where it is cool, moist and shady, usually, too shady for grass. Grass needs lots of sunlight to thrive and the only way to get that is to trim the trees overhead. But instead of trying to destroy moss in the landscape, why not just enjoy that soft, emerald green carpet where fairies and elves might dance? Moss has more than fantasy to recommend it though. Let me tell you how valuable it is in your landscape.

Algae, the first plants that took the sun's energy and synthesized it into food, live in the sea where water and minerals pass easily through their cell walls. When moss moved onto the land, it had to stay where it was wet because it, like algae, has thin cell walls subject to drying and burning by the sun. Moss have no roots to absorb water and minerals, and no vascular system to transport them off the ground. Later, more complex seed bearing, vascular plants arose. The miracle of trees are their roots,

thick protective cell walls and cellulose structures that allow them to build tall plants so that they can grow high up into the sunshine. Mosses built the soil on land preparing the way for the evolution of larger plants. What thanks did they get? They were shaded out by the taller plants, but no matter, mosses are survivors! They have more than 22,000 species adapting to every environment on earth.

In order to produce food from the sun (photosynthesize) mosses must always be covered with a thin layer of water. Because they have no roots, mosses get the minerals they need from water so moss colonies are designed to absorb, store, channel and conserve this most precious resource. A tight packed colony of moss holds water by adhesion and cohesion, similar to the way water moves through vascular plants. Like a sponge on the forest floor, moss is a significant warrior in the fight against erosion and floods. Without a constant water supply, mosses dry up and go dormant. They dehydrate, shrink and wait until the rains come again. Even after many years of waiting it takes as little as 20 minutes of water and the moss plants are up and photosynthesizing. Can you think of a more perfect place for moss survival than under lawn sprinklers that go off every other day?

Photo by: Gilbert A Smith

Moss garden or fairy play land?

If you shrunk your size 3,000 times and entered a moss grove it would be in every way like entering a tropical rain forest with 200 foot trees. The moss colony, like the rainforest community, harvests the sun's energy using it to grow, hold moisture, capture and recycle minerals for growth, create soil, and create a platform for many other plants and people. Rainforests and moss colonies are both an island of protection from harsh weather for their species, other plant species and a host of insects and animals that make their homes there. We all know how birds and bats, bees and bears depend on their home in the forest. What you may not know is that, one gram of moss from the forest floor, a piece about the size of a muffin could be home to up to 300,000 microscopic critters. Now, you may not care about the springtails or protozoa in the moss in your back yard but you can enjoy the parallel of the seen rainforest and the unseen, but equally as vital, life in your own back yard. In fact, the world of mosses is a vital link to our survival because among other benefits, it provides oxygen to breathe, uses and stores carbon dioxide to moderate temperature and weather and hosts the base of the pyramid of life on which we survive.

Not only do moss colonies trap water they trap dust and fallen leaves creating soil on which trapped seeds of flowers and trees can germinate and grow in previously inhospitable places. So mosses pave the way for forests, prairies, pansies and people. **There are life forms within a moss colony that appear no where else on the planet.** Mosses remove toxins from polluted water. Mosses can tell us when the air around us is polluted with nitric and sulfuric acid from car exhaust because their thin walls (like the cells in our lungs) are burnt by car pollution and disappear in urban environments. So it is a good sign to see mosses and lichens growing on our landscapes. There is significantly more friendly tree mycorrhizae in and beneath moss colonies than without moss. These friendly fungus increase the health of the trees by 30% and recycle nutrients that would normally be washed away. **Diminutive mosses support mighty trees.**

****_Gathering Moss_** by: Robin Wall Kimmerer
"One gram of moss from the forest floor, a piece about the size of a muffin could harbor 150,000 protozoa, 132,000 tardigrades, 3,000 springtails, 800 rotifers, 500 nematodes, 400 mites, and 200 fly larvae."

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