

# Home Grounds Fact Sheet

## Controlling Moss and Algae in the Lawn

Algae, mosses and liverworts are all very primitive, non-parasitic organisms that will thrive on environments that are not hospitable to most plants. These organisms are non-vascular, meaning they have no xylem and phloem to transport water and nutrients. They have a rudimentary stem held by root-like organs called rhizoids. They have only a few leaves with very little cuticle, the outer "skin" of the plant.

These "plants" are dependent on the presence of water in the environment rather than water in the soil. Poorly drained, compacted soils are especially susceptible to algae growth. Water sits on the soil surface and sunlight provides additional warmth. Therefore growth occurs even more rapidly. Standing water and algal growth further impede air penetration into the soil, resulting in even less oxygen for roots and a consequent build-up of toxins that are produced by anaerobic bacteria in the soil.

Copper at only 5 parts per million will control algae, but when copper builds up in soil it is phytotoxic. Maintaining the proper pH will help to prevent copper toxicity. Moss is an indication that drainage is poor, there is a good bit of shade and poor air circulation. It is important to look at what can be done about correcting soil conditions so the area is not constantly moist. Is the moisture a result of a heavy clay soil, hard pan beneath the soil, or is the moisture from a drain pipe the contributing factor?

Moisture from a drain pipe is the easiest to correct; re-route it to empty into another area where there is more sunlight, sandier soil, greater air circulation or where the moss won't be so obvious.

Some mosses will also grow in dry areas. If the soil becomes too dry, the moss can become dormant. Mosses are indicators of low soil fertility, or of scalping or drainage problems. On the plus side,

mosses are very beautiful and can colonize areas where turf just simply won't grow well. If the moss has to go, iron sulfate will control it. Because moss has no cuticle, it will scorch easily. However, be sure to select a rate, (8-16 ounces/1000 sq.ft.) that will kill the moss but not the surrounding turf.

There are no guaranteed chemical control methods for moss. The best method involves applying iron sulfate or ferrous ammonium sulfate at 1 pound per 1,000 square feet. Water in the material one hour after application or after the moss turns black. It is best to make this application in cool, humid weather. Repeat applications may be necessary.

The moss should be raked out after it is dead. Dead moss can form an impervious layer over the soil surface. Follow with an application of lawn fertilizer to encourage growth of desirable grasses back into these areas. If sizeable bare spots remain after removing the moss, it may be necessary to reestablish the spots by seeding or sodding.

Algae, often mistaken for moss, may be found growing in moist areas under trees. It is a fresh water plant that may be eliminated by spraying 1 teaspoon of copper sulfate in 8 gallons of water. Algae will return if the causal factor, usually poor drainage, inadequate light or low fertility, is not corrected.

Ultimately, getting rid of moss and algae depends not on stop gap chemical measures but on soil renovation. Compaction and drainage problems can be improved by amending the soil with fibrous materials and/or core aeration. Thatch is also a barrier to water penetration. Any practice that improves air and water penetration into the soil will improve algae and moss invasion. Also remember to check pH. A large earthworm population will aid soil compaction problems, but earthworms will not thrive where the soil is too acid or too many pesticides have been applied.

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