

# AGMIN NEWSLETTER No. 235

## Chemical Control of Moss in lawns

Moss in a lawn is an indication that the turf is not growing well. It is important to consider that moss does not kill the grass; it simply creates unfavourable growing conditions such as shade, poor drainage, poor fertility or compacted soil. These conditions, not the moss, ultimately cause the grass to die out.

### Application of Agmin's Cupricide®

*Cupricide® is an Organic Copper Complex, algae and moss specific. It does not affect the plants surrounding the moss areas but provides copper nutrition to plants and sets back the growth of moss.*

***Apply Cupricide® at a rate of 1 Litre per 100 sqm.  
Cupricide® can be diluted, depending on applicator used.  
For example, with a backpack spray dilute Cupricide® to  
a minimum of 1 to 10 parts (1 part Cupricide®, 9 parts water).***

Herbicides and chemical control have only short term effects on moss. If herbicide use is not accompanied by proper environmental and physical controls, then the initial effect will be bare dirt or mud. Mosses will eventually return because the lawn deficiency, which led to the moss invasion, still exists. When herbicides alone are used, the symptoms, not the cause, or a weedy lawn are being treated. Furthermore, many of the common herbicides such as glyphosate, are ineffective against mosses.



*Photo, right: Lawn area showing moss growth in an open space.*

### Glyphosate

One of the most common herbicides in use today is glyphosate (for example in Round-Up). This herbicide is often not effective against mosses but does kill mosses in other cases. This chemical is absorbed through the leaves, becomes tightly bound to the soil, and is degraded by microbes. The failure of many common herbicides against mosses can be seen dramatically in some Christmas tree plantations and other perennial crops where competing higher plants have been killed by herbicides, leaving a green carpet of mosses and other bryophytes. The situations in which glyphosate does or does not kill mosses remain unclear.

### Ferrous Sulphate, Ammonium Sulphate and Copper Sulphate

Iron sets back mosses while having little effect on the grass. However, iron will not always kill the moss. It may "burn" the moss severely and render the plant very weak. If the moss is to be eliminated, it must be removed and grass seed sown into its place for a thick turf. Even so, if the conditions that favour the moss are not changed, the moss will recover over time, and it will not look like an application was ever applied.

Moss can be controlled with products containing Iron Sulphate, and Ferrous Ammonium Sulphate. A good mixture is approximately 100g of Iron Sulphate in 20 Litres of water. The 20 Litre mixture can then be sprayed over a 100 sqm area. Products such as Moss-Out (Ferrous Ammonium Sulphate) can be used to control moss as well.

**Note** that it is best to keep the Moss-Out product away from footpaths and driveway concrete, because it will stain the concrete.

Moss can be controlled by spraying with Copper Sulphate at a rate of 100g in 20 Litres of water. The 20 Litres will be sufficient to cover 100 sqm. However, the material could stain your hands and clothing (wear protective gloves/clothing, see MSDS for more information on handling), and may be caustic to metal containers. These materials do not pose serious threats to the environment; in fact Iron and Sulphur are essential elements for successful plant growth.

## Lime

Lime is a good product to control acidic conditions in your lawn. Over time, the acidic conditions can become detrimental to grass health by binding up the availability of important nutrients. By liming the turf, especially with a calcium-based lime, one can neutralize the acidity, building a better lawn and a stronger competitor for weeds and moss. The ideal soil pH for most lawns is 'neutral', about 6.5 to 7. A pH below 6 is considered 'acidic' and over 7 is 'alkaline'. Acid soil will often be associated with poor fertility, and may encourage moss growth in bare areas. Limestone is the common remedy used to 'neutralize' acid soils. If test of your lawn show pH 4 or 5, then applying limestone twice each growing season, in addition to regular fertilizer applications, should significantly improve the pH level. Do not add lime to control a moss problem unless a soil test indicates a need for lime.

## Fertilizer

Poor soil fertility can be a cause for lawn moss growth. If moss grows in areas of your lawn that appear dry and sunny, then the appearance of moss is probably caused by poor soil fertility. To see if low soil fertility is contributing to a moss problem, take a representative soil sample from the areas where moss usually grows and have it tested. If tests show deficiencies in certain nutrients, addition of those nutrients could alleviate the problem. Only apply fertilizers if it is needed. Over fertilization can cause other problems, including pest infestations and possibly groundwater contamination. At the same time your moss problem remains unaffected if low soil fertility was not the cause to begin with.



*Photo, right: Area chemically treated for moss control.*

Fertilization with a high nitrogen fertilizer can have a significant effect on moss reduction, and supports the growth of healthy turf. Monthly applications of iron and potassium, in combination with nitrogen, are also helpful. Specific moss control fertilizers are available that contain nitrogen, potassium and iron. These are most effective in a four-application per year program, with applications in early spring, late spring, mid-summer, and early fall. As with all fertilizers, carefully read and follow the directions on the product.



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