

Algae and Moss Control in Turf

Agronomy Information Leaflet

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Infestations of algae and moss in the turf are associated with unfavorable conditions for growing healthy, dense turf. Algae are unicellular or multicellular threadlike green plants that form a thin dense green scum over the soil surface. This scum forms a tough black crust when dry which acts as a barrier impeding the entrance of water and nutrients into the soil. Algae are competitive in compacted, waterlogged soils and during warm, sunny, humid conditions.

Mosses are green plants with leaves arising from all sides of a central axis. Mosses may grow erect or prostrate. They typically form a thick green mat at the soil surface. Conditions favoring the growth of mosses include low fertility, poorly drained soils, high soil acidity, excessively wet soils, soil compaction, excessive thatch or a combination of these factors that add up to thin or weak turf. Mosses are very competitive in cool, moist, shaded locations, such as the north side of buildings and wooded areas.

Physical or chemical removal of these pests will only be temporary unless growing conditions are improved. In some areas you may choose to use a mulch cover (pine straw, bark, etc.) or plant a shade-tolerant ground cover instead of turfgrass. The following practices can help you prevent or control algae and moss.

Cultural

1. Plant shade-tolerant grasses. (See N.C. Agricultural Extension Service Publication [AG-69](#), *Carolina Lawns*.)
2. Conduct a soil test to determine proper lime and fertilizer needs. Lime is necessary to reduce soil acidity. Proper fertilization will aid in preventing weed encroachment.
3. Avoid excessive watering and improve irrigation scheduling if necessary.
4. Aerify (core) compacted soils.
5. Increase air movement and light penetration in shaded areas by removing unnecessary undergrowth and pruning tree limbs.
6. Improve drainage.

Chemical

1. Algae may be controlled with copper sulfate at the rate of 2 to 3 ounces per 1,000 square feet or one teaspoon in 8 gallons of water. An application of 5 to 10 pounds of ground limestone per 1,000 square feet prior to reseeding will help to inactivate the copper sulfate that may be toxic to grass seedlings. Punch holes in the alga crust or remove the crust entirely to allow turf recovery in these areas. Prepare a new seedbed and replant if large bare areas exist.
2. Moss may be controlled with copper or ferrous sulfate sprayed at 5 ounces per 1,000 square feet in 4 gallons of water. Applying concentrated amounts (10 ounces per 1,000 square feet) of ferrous ammonium sulfate to the moss spots when the moss is damp offers another means of control. Ferrous ammonium sulfate should not be watered in. An application of 5 to 10 pounds of ground limestone per 1,000 square feet prior to reseeding will help to inactivate the copper sulfate that may be toxic to grass seedlings. Physical removal of the moss by raking may be needed to allow for recovery in these areas. Prepare a new seedbed and replant if large bare areas exist. Follow good establishment practices as discussed in *Carolina Lawns*, [AG-69](#).