

Moss Control in Home Lawns

Moss is a common occurrence in home lawns. Most often it becomes a problem in lawns that have low turf density. It appears when growing conditions favor the growth of moss more than the turf. Moss does not kill grass but rather moves into lawn areas that are weak and thin. Mosses produce numerous spores that are spread readily by wind and rain. If moss is a problem in your lawn, evaluate the site conditions and consider your turf care practices. The key to controlling moss is improving growing conditions to encourage a thick stand of healthy turfgrass.

CONDITIONS THAT FAVOR THE GROWTH OF MOSS

- Low soil fertility
- Acidic soil
- Dense shade from trees and shrubs
- Areas of poor drainage
- Soil compaction
- Excessive irrigation
- Poor air circulation
- General poor lawn care practices
- Inappropriate choice of turf species or cultivars for site conditions

The appearance of moss usually indicates you have a number of the above conditions present in your yard. For example, a homeowner applies lime on their turf hoping to kill the moss by raising the soil pH, but the moss will continue to grow if the area is shady and moist.

CULTURAL PRACTICES THAT REDUCE MOSS

- **Apply fertilizer at the right time, using the proper amount-** Late summer through fall (until November 15th) is the recommended time to fertilize cool season grasses such as Kentucky bluegrass, turf-type tall fescue and fine fescues. Fertilizing at this time encourages root development, which results in a lawn that is more drought tolerant and disease resistant. This period of active growth helps a lawn recover from the stresses of the summer. Do not apply fertilizer in the summer (cool season turf may be dormant at this time and injury

Table 1. UME Turf Fertilizer Recommendations

Grass Type	Date of Application	Pounds of nitrogen per 1000 sq. ft.
Tall fescue	September/October	0.9 - 1.8 lbs a year- 0.9 lb. in September and 0.9 lb. in October
Kentucky bluegrass	September/October	0.9 - 1.8 lbs a year- 0.9 lb. in September and 0.9 lbs. in October
Fine fescue	October	0.9 lb.
Zoysiagrass	June	0.9 lb.
Bermudagrass	June/July	0.9 lb. in June and 0.9 in July
<ul style="list-style-type: none"> • If clippings are left on the lawn you may only need one application per year regardless of your lawn's age. • Healthy lawns established longer than twelve years may only need one application per year. • No fertilizer can be applied between November 15 and March 1. 		

Optional Turf Applications

Grass Type	Date of Application	Pounds of nitrogen per 1000 sq. ft.
Tall fescue	Late May or early June	0.5 to 0.9 lb.
Fine fescue	Late May or early June	0.5 lb.
Kentucky bluegrass	Late May or early June	0.5 to 0.9 lb.
Zoysiagrass Bermudagrass	July or August	0.5 to 0.9 lb.
<p>Tall fescue and particularly Kentucky bluegrass may need moderate additional applications of fertilizer to maintain density and reduce pest and weed problems. The optional applications may help your lawn if:</p> <ul style="list-style-type: none"> • clippings are removed • there is a severe crabgrass problem • the lawn is heavily used • there has been pest or other damage • lawn was seeded the previous fall • the previous fall fertilization was missed 		

can occur.) Warm season turf such as zoysiagrass and bermudagrass are fertilized during the summer months (mid-May to August, never in the fall.)

- **Maintain soil pH in the 6.0 to 6.8 range-** For optimal turf growth, apply lime according to soil test results. Have your soil tested every 3 to 4 years.
- **Prune trees and shrubs-** This will allow more light to filter in and to improve air circulation. Do not “top” trees but thin branches that prevent light from reaching the turf.
- **Aerate lawn to reduce soil compaction-** Rent a core aerator that removes plugs of soil from the turf. Aeration should be done in the fall on cool season turf and in mid to late spring on warm season turf.
- **Correct areas of poor drainage-** Fill in low laying areas with top soil and reseed.
- **Irrigate the lawn only when necessary-** If not irrigated, tall fescue lawns will go dormant when conditions are hot and dry. However they quickly recover when rainfall and cooler temperatures return. Zoysiagrass is very drought tolerant and needs minimal watering. Shallow, frequent watering can actually damage your lawn because it encourages the development of a shallow root system. It is only necessary to irrigate newly seeded turf or lawns that are less than two years old. Newly seeded areas need to be lightly watered each day until the grass is actively growing. During the establishment period (up to two years) turf should be watered deeply and infrequently. Allow the water to penetrate the top 4-6 inches of soil (you can check the moisture depth by probing the soil with a screw driver.)
- **Plant the proper grass species for the site conditions-** For shady areas plant fine fescue, which tolerates less sunlight. This species of grass is not good for high traffic or poorly drained sites. Tall fescue will tolerate moderate shade, but grows best when it receives a minimum of 4-6 hours of direct sunlight.
- **Remove thatch-** Thatch build-up accumulates in zoysia, Kentucky bluegrass and fine fescue lawns. It reduces the vigor of turf by forming a mat that reduces the

amount of water, air, and nutrients reaching the soil. To alleviate thatch rent a vertical mower or a core aerator. Dethatching is done in the fall on cool season turf and in mid-May thru July on warm season turf.

- Mow lawn to proper height
- Sound cultural practices that encourage a healthy lawn will not only reduce your problem with moss, but will produce a lawn that can out-compete other types of weeds.

MECHANICAL AND CHEMICAL CONTROLS

Moss can be eliminated using mechanical means. Rake the areas covered in moss with a steel rake until the moss is removed and bare ground is exposed. Reseed the area.

Chemical products are available on the market to kill moss and can be purchased at hardware stores, farm supply stores, and garden centers. Typically the active ingredients in products for controlling moss on turf are *iron sulfate* or *potassium salts of fatty acids*. Both of these materials are drying agents that will burn the moss and turn it brown or tan. Rake up the dead material and reseed the area. Use products according to the label directions.

Both of these methods will provide temporary control only. For a more permanent solution, you need to correct the conditions that favor moss growth.

ALTERNATIVES TO GRASS

If growing conditions cannot be altered, you should consider converting the areas to ornamental beds or plant a groundcover. Once established, groundcovers may require less maintenance than grass. Moss itself is considered a low maintenance groundcover.

GROUNDCOVERS FOR SHADED AREAS

Moist shade

- *Pachysandra procumbens* (Allegheny spurge)
- *Chrysogonum virginianum* (Green-and-Gold)
- *Ferns*
- *Hostas* spp.
- *Pulmonaria* spp.
- *Pachysandra terminalis* (Japanese spurge) - do not plant beside a natural area
- *Galium odorata* (Sweet Woodruff)

Dry Shade

- *Carex pensylvanica* (Pennsylvania sedge)
- *Polystichum acrostichoides* (Christmas fern)
- *Epimedium* spp.
- *Symphytum* (Comfrey)

Mowing Guide		
	Spring & Summer	Fall & Winter
Tall fescue	2½ - 3½ in.	2½ in.
Perennial ryegrass	2½ - 3	2 - 2½
Kentucky blue-grass	2½ - 3	2 - 2½
Fine fescue†	2½ - 3½	2½
Bermudagrass	2 - 3*	2 - 3*
Zoysiagrass	2 - 3*	2 - 3*
* Recommended height for sport fields is 1/2 - 1 1/2"		
† Do not mow during the hot, dry period in summer		

REFERENCES

Home and Garden Information Center. 1996. Maryland Master Gardener Handbook, revised 2012 and 2016

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