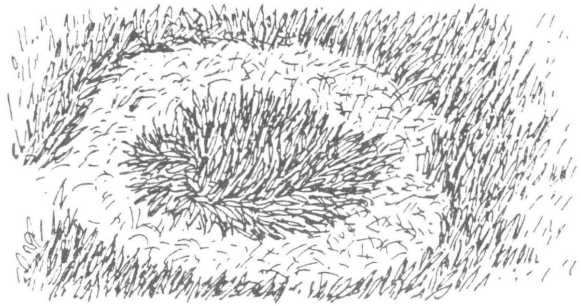
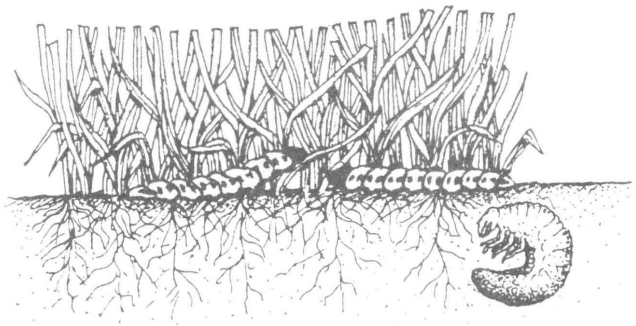
Weed Control. Weed control can be minimized by good mowing and fertilization management, which help grass compete with weeds. Broadleaf or grassy weeds can be perennial, annual, or biennial. Control methods and timing vary depending on the weed species.



Disease Control. Proper management will greatly reduce a lawn's susceptibility to disease. Disease damage may be difficult to identify since many of the same symptoms are also caused by bad management or by natural factors, such as competition from tree roots. Most lawn diseases are caused by fungi; fungicides can be applied to control them.



Insect Control. Many types of insects occur naturally in a lawn; most of them are not harmful and do not require control unless the pest population builds up enough to cause visible damage. Close examination of the turfgrass is the most effective way to identify insects.

The most common above-ground insect pests in Virginia lawns are chinch bugs and sod webworms; both feed on grass leaves and stems. Below ground, the most common pests are white grub larvae and weevil or billbug grubs; these feed on plant stems and roots.

If a problem is evident, your Extension agent can help identify the pest and suggest controls.

For more information on selection, planting, cultural practices, and environmental quality, contact your local Virginia Cooperative Extension Office. If you want to learn more about horticulture through training and volunteer work, ask your Extension agent about becoming an Extension Master Gardener. For monthly gardening information, subscribe to *The Virginia Gardener Newsletter* by sending your name and address and a check for $5.00 made out to "Treasurer, Va Tech" to the Virginia Gardener, Department of Horticulture, Virginia Tech, Blacksburg, VA 24061-0349. Horticultural information is also available on the Internet by connecting with Virginia Cooperative Extension's server at http://www.ext.vt.edu

The original development of this series was funded by ESUSDA Smith Lever 3(d) National Water Quality Initiative Funds and the Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.

Revised 2000 Publication 426-717

Virginia Gardener

Maintaining Lawns

Virginia Cooperative Extension

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

VIRGINIA STATE UNIVERSITY

Maintaining Lawns

The first step toward having a beautiful, sustainable lawn is to select a turfgrass variety adapted for your area. The next step is proper establishment. A quality turfgrass variety properly established is easier to maintain and enjoy. Important factors in maintaining quality turfgrass include regular mowing, fertilization, weed control, irrigation, and leaf-raking. In some years, dethatching, pH adjustment, aeration, disease control, and insect control may be beneficial.

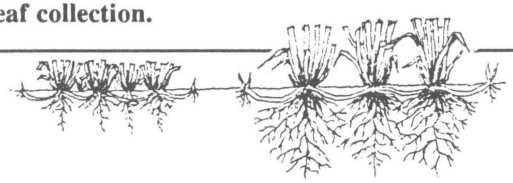
Annual Maintenance

Mowing. Frequent mowing is an important part of turf maintenance. It is best to remove no more than one third of the vegetation at one mowing. If mowed too closely, root growth is slowed. This reduces the lawn's tolerance to heat and drought. Also, weeds are more likely to invade closely cut lawns.

Recommended mowing heights for turfgrasses

Turfgrass	Mowing Heights (inches)
Kentucky bluegrass	1½ to 2½
Tall fescue	2 to 3
Creeping red fescue	2 to 3
Perennial ryegrass	1½ to 2½
Bermudagrass	½ to 1
Zoysiagrass	3/4 to 1

Selecting higher mowing heights during summer months for cool-season grasses will reduce stress levels of the turf; at the same time, it will increase the likelihood of the grass surviving drought. Lower mowing heights in fall will aid leaf collection.



Be sure to keep your mower blade sharp! Using a dull blade causes excess leaf damage and depletes the plant's stored reserves during the stress-filled summer months. Eventually the plant is not able to heal the mowing wound. The open wound becomes a site of fungal entry, leading to a diseased lawn.

Clippings can be effectively recycled to the turf as long as they disperse well and are not clumped on the lawn. They are not a major contributor to thatch, and they provide nutrition to the lawn as they decompose.

Fertilization. Fall fertilization enhances the quality of cool-season grasses in Virginia. The advantages of fall fertilization include better density and root growth, less spring mowing, better fall-to-spring color, less weed problems, better drought tolerance, and less summer disease activity. The amount of fertilizer to apply and the timing of application can affect both turf and groundwater quality. Contact your local Extension agent or nursery expert for recommendations.

pH Adjustment. Soils in Virginia are typically acid, and it may be necessary to add lime occasionally to keep the soil pH near 6.2, the ideal for quality turfgrass. A soil test every two to three years will tell how much lime to apply.

Irrigation. Deep, infrequent irrigation (so water penetrates 6 to 8 inches deep) will encourage deep root growth, efficient water use, and turfgrass quality. The best time to water a lawn is early morning when evaporation is minimized. Early evening or night watering leaves the lawn wet at night, which increases the potential for disease.

A light sprinkling of the surface encourages root development near the surface and increases weed seed germination. The resulting, limited root system will require frequent watering and constant surface moisture.

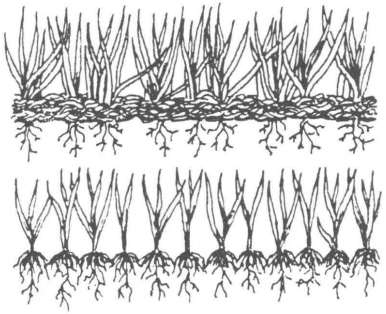
Lawns can use an inch or more of water per week in hot, dry weather. If rainfall does not provide this much water, the lawn should be watered when the soil begins to dry out, but before the grass actually wilts (areas of the lawn will begin to turn blue-green). If you choose not to water, Kentucky bluegrass can be allowed to go dormant (turns straw-colored and stops growing). It can stay that way until rainfall returns and the grass naturally greens up again. While dormancy is a natural method of drought survival of Kentucky bluegrass, many fluctuations between dormancy and active growth weaken the lawn. Watering during the fall when more favorable growing conditions exist and evaporation is less encourages recovery of the lawn. Tall fescue has a deep root system in deep, well-drained soils and can survive moderate drought periods.

Periodic Maintenance

Dethatching. In some years it may be necessary to remove thatch — the tightly interwoven layer of living and dead stems, leaves, and roots between the green grass and the soil surface. A layer of thatch less than a half inch in thickness can be beneficial to the grass, as it is similar to mulch and provides many of the same benefits. Too much thatch provides a habitat for insects and disease and makes the grass less tolerant of heat and drought.

If the lawn's thatch is more than a half-inch thick, dethatching will be beneficial. Timing is critical; dethatching should be done during low-stress periods. Kentucky bluegrass and other cool-season grass lawns should be dethatched in early fall or early spring. Bermudagrass and zoysiagrass should be dethatched June through July. Dethatchers can be rented; they deposit the thatch debris on top of the lawn, where it can be raked up and composted.

The turgrass on top has thatch; the bottom shows turf with the thatch removed.



Aeration. If soil is heavy or compacted, or thatch is a problem, aeration may be necessary. Roots need oxygen as well as water and nutrients; compacted soil prevents the flow of oxygen from the atmosphere to the roots. Aeration is best done by a machine which forces hollow metal tubes into the ground and brings up small cores of soil. When this is done, the soil should be moist — neither too wet nor too dry. Other "aerators" punch holes in the soil with a spiked roller; while they may aid water retention, they actually increase soil compaction. Soils are aerated during the same seasons as dethatching.