



## INTRODUCTION

What is a lawn? Random House Webster's College Dictionary says that a lawn is "A stretch of open, grass covered land, especially one closely mowed, as near a house, on an estate or in a park"

For all its simple definition, lawns can stir emotions and generate a multitude of questions.

- *Which is the best grass?*
- *How much do I fertilize?*
- *How much do I water?*
- *Why do I have moss crowding out my grass?*
- *Crabgrass, it's the bane of my existence!*
- *What's the best way to cut my grass?*
- *What do I do about those "!"&"#@" moles?*
- *Why can't I grow grass under my trees?*
- *I hate dandelions!*
- *My neighbor wins the lawn of the month contest every month! What's his secret?*

Before starting a lawn, consider water-wise alternatives to large expanses of lawn. Virginia has a constitutional mandate (Art. XI, Sec. 1. VA Constitution) to protect the quality of its natural resources. An important part of the Commonwealth's natural resources that are of particular concern to homeowners in Gloucester County and the rest of the Middle Peninsula are the groundwater; surface water (streams, ponds, reservoirs) and the Chesapeake Bay and its tributaries. Virginia has adopted anti-degradation policies to protect all the waters of the Commonwealth. Excessive use of lawn fertilizers, insecticides, herbicides, and fungicides has the potential to degrade the water resources that the state is required to protect. Excess nutrients and pesticides seldom enter the Commonwealth's waters by direct application. The common route is through surface runoff or percolation through groundwater. The amounts of contam-

inants entering the state waters are directly related to the amount of application and irrigation, watering, or rainwater runoff.

By landscaping to reduce the need for a lot of watering and preventing what water is used from running directly into streams, homeowners can have a positive effect on the environment and save on nutrient, pesticide, and water costs at the same time.

Lawns make an attractive foreground for other plantings and are necessary for play areas. Many yards have large, essentially unused expanses of high maintenance lawns. By careful planning much of this large lawn expanse can be replaced with low maintenance plantings. In smaller yards, increased use of small flowering trees surrounded or flanked by wide borders of perennial flowers or ground covers other than grass can substantially reduce the lawn area. In very extensive property, wild flower meadows can be very attractive alternatives to large expanses of maintained lawns. Such meadows can survive many years with only an annual mowing and provide the homeowner with ever-changing vistas of colorful flowers throughout the entire growing season.

Once you decide to put in or spruce up a lawn, the following information drawn liberally from the lawn care and other Virginia Cooperative Extension (VCE) documents listed at the end of the chapter will answer many of your questions, calm some of your emotions, and solve some of the problems that you as a Gloucester resident might have with your lawn. It starts with selection of grasses, followed with establishing a lawn and then covers some of the required maintenance such as mowing, watering, fertilizing, and liming needed to maintain a healthy lawn; it also provides some suggestions as to what to do if your lawn is overcome with weeds, disease, insects, or other pests.

## SELECTING A GRASS FOR GLOUCESTER

Gloucester is located in a transition zone for turf grasses. Both warm season and cool season grasses can be challenged by the climate in this area. Selecting the proper grass can save a lot of work and worry. Homeowners may face different conditions on their property. It may be necessary to plant more than one type of turf grass in different spots for the best lawn. Whatever grass is selected, “Certified” seed, sod, or plugs should be used. Certified grass or seed is guaranteed to be what it says on the label. Don’t waste money on turf grasses that do not grow well in this region. The most common lawn grass used in this region has been a cool season grass called turf-type tall fescue. However, with our current trend of warming climate and extended dry conditions, more and more homeowners are turning to warm season grasses. VCE tests both warm season (Bermudagrass and Zoysia grass) and cool season (Tall fescue grasses) for our region. Many other grasses are tested and VCE recommends specific turfgrass varieties for different parts of the state. Each summer a new report on the previous year’s test data is published. (See Referemces at chapter end.)

Questions that the homeowner should be asking are:

*Do I have a lot of shade in some parts of the yard and not others?*

- Will the kids (or grandkids) be playing in all or parts of the yard?
- If I live on the water, does part of my yard flood at high water?
- Do I get wind spray off the water with high winds?
- How much will I be able to water the lawn in dry weather? (County water is expensive!)

### Warm Season Grasses

Bermuda grass is a warm season grass which will go dormant (turn brown) with the first hard frost in the fall and green up during April to May, depending on the temperature. It is traditionally established from sod, plugs, or sprigs. Two-inch diameter plugs of bermuda grass planted on 12-inch centers will normally provide 95-100% cover in one growing season. Bermuda grass spreads by rhizomes (a root-like underground stem that usually produces roots below and sends up shoots progressively from the upper surface.) In recent years varieties of Bermuda grass have been developed that are suitable for propagation by seed.

Zoysia is a warm season grass of fine to medium texture. It goes dormant (brown) after the first hard frost. Most varieties of Zoysia are only available as sprigs or plugs. Zoysia is a very wear-tolerant turf grass, but its slow rate of growth gives it a poor

This table compares some of the characteristics of grasses used in Eastern Virginia.

	Shade Tolerant	Traffic Tolerant	Salt Water Tolerant	Drought Tolerant	Winter Color
<b>Warm Season Grasses (Grows best from mid-April through early November)</b>					
Bermuda Grass	No	Yes	Yes	Yes	Brown
Centipede	Yes	No	No	Yes	Brown
St. Augustine	Medium	No	Yes	Yes	Brown
Zoysia	Medium	Yes	Yes	Yes	Brown
<b>Cool Season Grasses (Grows best from mid-September until early June)</b>					
Tall Fescue <sup>1</sup>	Medium	Medium	No	No	Green
Fine Fescue	Yes	Poor	No	No	Green
Kentucky Blue Grass	No	Good	No	No	Green

<sup>1</sup> Virginia Tech only recommends tall fescue when some shade or a dependable irrigation is available.

recuperative potential. Zoysia will also spread by rhizomes. Zoysia will not tolerate poorly drained soil. Zoysia plugs planted on 12-inch centers will usually take two or three growing seasons to provide full cover.

### Cool Season Grasses

Tall fescue is the species of cool season turf grass that grows best in this area. Cool season grasses that do well in other parts of Virginia, even the Piedmont, such as fine leaf fescue, red fescue, perennial rye grass, Kentucky bluegrass or bluegrass are not recommended for Gloucester. Tall fescue will remain green year round in Gloucester. Its main disadvantages are that it requires shade or extensive watering during hot dry summers which seem to be the norm in recent years.

### ESTABLISHING YOUR LAWN

Before beginning work on your lawn, TEST YOUR SOIL!! The Extension office in the Courthouse has the forms and instructions for taking soil samples and having them tested by Virginia Tech. The test will tell you what nutrients you need, but more importantly the pH of the soil. Most soils in Gloucester are acidic and will require lime, but be sure and check. Bermudagrass and Zoysia grow optimally at a pH between 6.0 and 7.0. Tall fescue grows best at a pH between 6.2 and 6.5.

Also check the depth of your soil. Turf grasses will not be able to establish the deep roots needed to outlast the harsh summer droughts if they don't have enough soil depth. Ensure you have between 4-6 inches of good soil at a minimum (The deeper the better). If you have to bring in topsoil, also bring in some compost. A good mix is 1 part compost to 2 parts topsoil. [Compost is available very reasonably at the Virginia Peninsula's Public Service Authority, Yard Waste Composting Facility on Goodwin Neck Road, just off Route 17 in York County (757) 898-5012.]

*"The best time to establish a lawn is in the fall of the year."*

– Joann Gallagher, GEMG

Lawns can be started from seed or by installing sod. Although there are now recommended seed for both warm and cool season grasses, some bermudagrass varieties cannot be seeded and must be started with sprigs or sod.

### Cool Season Grass

Fall is the best time to establish a cool season grass lawn (tall fescue). Seed is best started during September. Sod can be installed at any time except when the ground is frozen or in extreme drought or heat conditions. If you plan on establishing your cool season grass lawn in the fall, start preparations early. Changing pH takes several months, so you may want to add lime in the spring. In August add any amendments such as compost, additional lime, and about 2/3 of the required fertilizer and till to depth of 4-6 inches. If the yard is full of weeds or has the wrong kind of grass, you may want to use herbicide to kill the existing weeds or lawn prior to tilling. After tilling, grade the yard to establish good surface drainage. Finish the grading by fine raking, apply the remaining fertilizer, and rake 1-inch into the surface.

Seed or sod the area. Seed at the rate of 6 lbs. /1000 sq ft. Sow half the seed in one direction (up or down the lawn) and the other half in the opposite direction (sideways). Cover the seed by raking lightly into the soil with a leaf rake. Roll the area with a moderately heavy roller. Water daily with several shallow waterings to ensure rapid seed germination. Mulch the area with a light mulch such as straw (1/2 to 2 bales of weed-free straw/ 1000 sq. ft.)

When to Plant Cool Season Grasses		
Area of Virginia	Seed	Sod
Southern Piedmont and Eastern Virginia	September 1 to October 15 or February and March	Anytime soil is not frozen

### Warm Season Grass

Warm season grasses should be sprigged, plugged or sodded during May after the soil is warm. May and June plantings will have the greatest chance of surviving the first winter. These grasses have been successfully planted as late as July, but late summer plantings are not recommended.

When to Plant Warm-Season Grasses				
Area of Virginia	Seed	Sod	Springs	Plugs
Southern Piedmont and eastern Virginia	a) Hulled Bermudagrass May to July 15	Late May to Aug 15	Late May to July 15	Late May to July 15
	b) Unhulled Bermudagrass Late fall or winter prior to growing season			

Soil preparation is the same as for cool season grasses except that liming should be started in the previous fall. Warm season grasses are available as 1- or 2-inch diameter plugs with about 2 inches of soil attached. The plugs should be fitted tightly into precut holes on 6-12 inch centers. Planting plugs on 6-inch centers requires 4000 plugs/1000 sq. ft. On 12-inch centers, 1000 plugs are needed/1000 sq. ft.

Sprigs can be purchased as sod and then shredded or can be purchased by the bushel. One bushel of sprigs is produced from shredding one sq. yard of sod. Sprigging rates vary from 7-10 bushels/1000 sq. ft. Sprigs can be broadcast over previously disked ground and covered lightly by disking again. Sprigs can also be planted in shallow depressed rows on 6- or 12-inch centers, and then covered with soil. New sprigs require light and frequent watering for at least 30 days after planting. The soil should not be allowed to dry out. Plugs or sod also require frequent, light watering until the plugs or sod is rooted. Once rooted, watering is only needed every second or third day.

## MAINTAINING YOUR LAWN

### Mowing

*"I always thought a yard was three feet until I moved into a house with a lawn."*

– [mrsmegabyte.com](http://mrsmegabyte.com), Martha Stewart Parody

### Turfgrass Mowing Heights (inches) for Lawns

Tall Fescue	3
Bermudagrass	1
Zoysia	1

Mowing should be determined by seasonal growth demands such that no more than 1/3 of the existing green blade is removed at one time. If the lawn is mowed too closely, root growth is slowed and the lawn's tolerance to heat and drought is reduced. It is important to use a sharp blade in the mower so that the grass is cut cleanly. Using a dull blade results in excess leaf damage. The open wounds leave the lawn susceptible to fungal damage.

Clippings do not have to be removed from the lawn. They do not cause thatch build-up but do add nitrogen to the soil when they decompose. Three years of leaving clippings on the lawn has been shown to increase the growth rate by 38% over a lawn from which clippings were removed. Earthworm populations increased in lawns where clippings were left, improving aeration and water infiltration.

### Leaves in the Fall

Fall is the season for colorful tree foliage. Unfortunately for lawn growth, these colorful leaves eventually fall on top of our lawns and gardens. Now we must quit managing lawns and begin managing leaves. Leaves left on a lawn may cause several problems such as reducing lawn growth by blocking sunlight or trapping moisture in the lawn canopy, thus increasing the potential for lawn diseases. There are two basic approaches to leaf management: removal or mulching in place.

Blowing, raking, or vacuuming (removal) results in an accumulation of leaves. If you have a compost pile you can add these leaves to it. If you do not maintain a compost pile, you can often find a neighbor (par-

## Pine Needles

Lawn mulching techniques do not apply to pine needles. Due to their size, shape, and composition, pine needles are highly resistant to microbial breakdown, and even if they are chopped into smaller pieces, they remain physically intact for months. Although pine needle disposal by mulching is not feasible, pine straw is very desirable as landscape bedding mulch. Consider using raked pine needles around your shrubs, especially those that do well in slightly acid soil such as azaleas. Again, if you have no use for the pine straw you rake from your lawn, ask a neighbor or a Master Gardener if they are willing to come and take it off your hands

ticularly if the neighbor is a Master Gardener) who will be happy to take leaves off your hands. Gloucester County also has five Convenience Centers that separate yard waste such as leaves and clippings from trash and other recyclables. (See References at end of chapter.)

Mulching a thin layer of leaves directly into the lawn is a technique that can be less labor intensive (especially if you have a riding mower) than raking, blowing and moving the resulting piles of leaves. Many agricultural research reports show that chopping up deciduous leaves as part of a regular mowing schedule is an effective means of managing these leaves without harming the turf.

While mulching mowers are preferred because they have special deck and/or blade designs to mulch clippings, almost any rotary mower unit will suffice. However, think safety first. Inspect the site and remove sticks and limbs before mulching to reduce the chance that you or someone else will be hurt by flying debris. Wear safety goggles and an air mask over your mouth and nose to protect yourself from debris and dust. Use some common sense regarding how many leaves can be effectively mulched in a single mowing event. Multiple passes with your mower might be required to thoroughly chop leaves. Finally, if you are going to be mulching leaves in the fall, keep your blades sharp and air filters cleaned. This will improve both the mulching process and the life of your mower engine.

## Watering (Irrigation)

Deep, infrequent irrigation so that the water penetrates 6 to 8 inches will encourage deep root growth and turfgrass quality. In hot, dry weather, a lawn can use an inch of rain/week. The best time to water a lawn is early morning when evaporation is minimal. Over-watering can lead to excess blade growth and summer fungal disease (not to mention the need for more frequent mowing). Excess watering also wastes water and can increase the risk of fertilizers (nutrients) and pesticides getting into local streams and/or the Chesapeake Bay. To ensure the 1-inch per week, water after a light rain that is of less than the desired inch.

## Fertilizing

A soil test will tell you the amount of phosphate and potash in your soil as well as the pH of your soil. The soil test does not tell you the amount of nitrogen you need. Fertilizers are described by a ratio of three numbers, N (nitrogen), P<sub>2</sub>O<sub>5</sub> (phosphate) and K<sub>2</sub>O (potash) such as 10-10-10. The N content in turf maintenance fertilizers is in a quickly available and slowly available (water insoluble nitrogen—WIN) form. The WIN percentage is listed on the label. VCE recommends lawn fertilizer with a 4-1-2 ratio. The percentage of total nitrogen that is WIN is important for selection of the appropriate program for nitrogen fertilization. Use Programs 1 or 2 for cool season grasses; Program 3 or 4 for warm season grasses.

***“Grass lawns have to be the stupidest things we’ve come up with. We constantly battle dandelions, Queen Anne’s lace, thistle, violets, chicory and clover that thrive naturally so we can grow grass that must be nursed through an annual 4-step chemical dependency.”***

**– Lee Stratton, Columbus OH, Dispatch, 11 November 1995**



**Programs for Fertilization of Cool Season Grasses:**

<b>Program 1. Nitrogen Fertilization Using Quickly Available Nitrogen Fertilizers (Less Than 50% Win)</b>				
<b>Nitrogen Application by Month</b>				
<b>Acceptable Quality</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>May 15-June 15</b>
lbs. Nitrogen/1000 sq. ft.				
Low	0	1	0	0-1/2
Medium	1	1	0	0-1/2
High	1	1	0	0-1/2

<b>Program 2. Nitrogen Fertilization Using Slowly Available Nitrogen Fertilizers (50% or more WIN)</b>			
<b>Nitrogen Application by Month</b>			
<b>Acceptable Quality</b>	<b>August 15 - September 15</b>	<b>October 1 – November 1</b>	<b>May 15-June 15</b>
lbs. Nitrogen/1000 sq. ft.			
Low	1.5	0	0
Medium	1.5	1.5	0
High	1.5 – 2	1.5	0 – 1.5

**Programs for Fertilization of Warm Season Grasses:**

<b>Program 3. Nitrogen Fertilization Using Quickly Available Nitrogen Fertilizers (less than 50% WIN)</b>				
<b>Nitrogen Application by Month</b>				
<b>Acceptable Quality</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July/August</b>
lbs. Nitrogen/1000 sq. ft.				
Low	1	1	0	0
Medium	1	1	1	0
High	1	1	1	1

<b>Program 4. Nitrogen Fertilization Using Slowly Available Nitrogen Fertilizers (50% or more WIN)</b>		
<b>Nitrogen Application by Month</b>		
<b>Acceptable Quality</b>	<b>April/May</b>	<b>June/July</b>
lbs. Nitrogen/1000 sq. ft.		
Low	2.0	0
Medium	1.5	1.5
High	2.0	2.0

The following table shows the correct amount of fertilizer to apply to obtain desired amount of nitrogen for the four programs using common fertilizer compositions.

<b>Pounds of Nitrogen Desired/1000 Square Feet</b>				
Fertilizer Analysis	0.5	1.0	1.5*	2.0*
	Lbs. fertilizer/ 1000 sq. ft.			
6-2-0	8.3	16.6	25.0	33.0
10-10-10	5.0	10.0	15.0	20.0
12-4-8	4.1	8.3	12.5	17.0
16-8-8	3.1	6.2	9.4	12.0
20-0-16	2.5	5.0	7.5	10.0
23-3-7	2.1	4.3	6.5	8.6
28-0-12	1.8	3.6	5.3	7.2
31-0-0	1.6	3.2	4.8	6.4
33.5-0-0	1.5	3.0	4.5	6.0
38-0-0	1.3	2.6	3.9	5.2
46-0-0	1.1	2.2	3.2	4.4

\* These amounts are only recommended for fertilizers with 50% or greater WIN

### pH Adjustment

Before working on a lawn, the soil should be tested. Most soils in Virginia are acid; lime recommendations will be made to raise the soil pH to about 6.2. About 100 lbs. of limestone/ 1000 sq. ft. will raise the pH about one unit (i.e., from pH 5.2 to 6.2) in loamy soils. Sandy soils will take a little less and clayey soils will take a little more. If soil tests indicate low available magnesium levels, dolomitic limestone should be used. Otherwise use ground agricultural limestone. Lime will move down in the soil with rain and watering. Soil should be retested for pH about every 3 years and lime applied as necessary.

For a cool season grass lawn, it is recommended that lime be applied in late winter to allow the lime to react in the soil for fall fertilization. However, lime can be applied anytime. If a spring soil test indicates the need for lime, apply it. Lime is one of the least expensive soil additives available. Don't hesitate to use it. Be aware, though, that too much lime can drive soil pH in the alkaline range which is not good for grasses. Maintaining soil pH about pH 6.5 will provide good conditions for both cool season and warm season grasses.

### Moss

Moss in lawns is usually a sign of poor soil, insufficient sunlight and an acid condition. Steps to take to remedy the problem involve trimming lower branches of trees to provide more light, treatment with lime, and addition of nutrients, particularly nitrogen. The first thing that should be done if this condition exists in your yard and it bothers you is to have your soil tested, particularly for pH. This will provide guidance on the amount of lime needed. The moss can usually be raked away before treatment.

An alternative to moss removal is a moss garden. See the References section at the end of this chapter for directions on growing moss.

## Moles

A problem that occurs in many lawns is mole tunnels. Moles are insectivores (They eat underground insects, grubs, and worms.). Research tells us that the primary food source of moles is the earthworm. Various methods are suggested for solving the mole problem:

- Harpoon type traps that spear the mole are the recommended method of VCE (traps that “lasso” the mole with a noose are also available.)
- One approach is to dose the affected lawn with milky spore, a fungus that attacks grubs that are a common prey of moles. The problem with this is that moles will eat other things beside grubs such as earthworms which are very desirable.
- Dogs and cats are known to dig up and kill moles. This gets rid of moles but leaves you with a hole or holes to fill.
- A rodenticide bromethalin (trade name talipirin) has been incorporated into “earthworm-like” bait for moles. VCE does not yet recommend this for mole control.

## Dethatching

Thatch is a tightly interwoven layer of living and dead stems, leaves, and roots that exist between the green blades of grass and the soil surface. A thin layer of thatch (about 1/2 inch) can actually be good for the lawn by increasing moisture retention in the soil, preventing weed seed germination, insulating crown tissue from frost and traffic damage, and increasing wear tolerance by spreading out the impact of compacting forces such as running and walking. Tall fescue is a low producer of thatch and a good tall fescue lawn will probably not need dethatching. Bermudagrass and Zoysia are high producers of thatch.

Light applications of lime (20-25 lbs./1000 sq. ft.) and top dressing of turfgrass seems to speed up thatch decomposition. If thatch does become built up, dethatching and/or aeration will be helpful. Dethatching should be done during low stress periods. For cool season grasses this would be in the fall after the summer heat and drought conditions have passed and before frosts or early spring after frost danger has passed. For warm season grasses dethatching should be done in June or July.

## Aeration

If soil is heavy or compacted, or thatch is a problem, aeration may be needed. Aeration allows oxygen and moisture to reach the root layer. The best aeration is done with a machine that forces hollow metal tubes into the ground and brings up small cores of soil. This is most efficient if the soil is “moist,” neither too dry nor too wet. Aeration should be done during the same time periods as dethatching to avoid stressing the lawn. Over seeding and top dressing is most efficient immediately after aeration, before rain or irrigation fills in the small holes. VCE does not recommend aeration with “spike” rollers which may increase soil compaction. Aeration is not necessary every year, and may harm the lawn.

## Weed Control

Weed problems can be minimized with good mowing and fertilizer management as this helps grass out-compete weeds. There are two basic groups of lawn weeds: weedy grasses and broadleaf weeds. Examples of weedy grasses are crabgrass, goosegrass, foxtail, nimbleweed, orchard grass and even bermudagrass in some lawns. Some broadleaf weeds are dandelions, chickweed, clover, wild onions, oxalis, plantain, or anything not classified as a grass. There are selective herbicides for broadleaf weeds. These herbicides are most effective when the broadleaf weeds are actively growing or in the seedling stage. Annual weedy grasses such as crabgrass, foxtail, and goosegrass are best controlled by pre-emergent herbicides applied in the spring prior to germination. Spring reseeding of desired grasses cannot be done if the lawn is being treated with pre-emergent herbicides. Pre-emergents only work when seeds are about to germinate. Using pre-emergents for crab grass control in the fall is a waste of money and effort. Crabgrass control should begin when the forsythia are beginning to bloom. Fall use of pre-emergents can be used to control chickweed or other winter ‘weeds.’

If weeds are totally out of control and are a mixture of broadleaf weeds and weedy grasses, it may be desirable to kill everything with a non-selective

***“I never won the ‘Yard of the Month’ contest, but I have a lot of ‘Weed of the Week’ awards.”***

**– Joe Hickman**



herbicide and start your lawn again from scratch. Whatever herbicide treatment you select, care should be taken to apply the chemicals at the most appropriate time of the year. Label directions should be carefully followed, and recommended rates should not be exceeded. Improper application of herbicides can result in damages to desirable grasses, ornamental plantings and the environment. *This is a particular concern in Gloucester, where most of the land is very low, and Chesapeake Bay or streams that flow into the Bay are never far away.*

### Disease Control

As with weed control, good maintenance practices can prevent or minimize disease. Nearly all lawn diseases are caused by fungus and can be controlled by appropriate fungicides. However the determination of which fungus is the problem is not an easy task. For an accurate diagnosis, a description of the immediate environment where the problem is found, an accurate identification of the host (type of grass), and the identification of the pathogen (disease) are necessary. Particularly important are symptoms on the grass itself. These include symptoms on the grass stand (e.g., does the disease occur in patches, rings, circles or is it essentially without a pattern?) and symptoms on the individual plants such as leaf spots, leaf blight, wilt, stunt, yellowing and root discoloration or rot. If you are not familiar with the specific symptoms of a disease, it is best to prepare an accurate description of the “environment” of the disease

and its appearance in the grass stand; collect some of the diseased plants; and bring both the descriptions and the plants to the Gloucester Extension Office for a diagnosis by experts from Virginia Tech.

Once a diagnosis is made and an appropriate fungicide selected, application must be made in accordance with the directions on the label.

### Insect Control

Again as with weed and disease control, proper lawn maintenance will prevent most insect problems from occurring. Insects are natural inhabitants of a healthy lawn and, for the most part, do not harm the lawn. The common lawn insect pests in Virginia are shown in the following table:

If you believe you have insect damage, the best thing to do is to bring a specimen of the suspected pest into the Gloucester Extension Office for identification. If it is a pest, then control measures can be recommended. As with herbicides and fungicides, label directions must be followed exactly. Excess insecticides will run into the Chesapeake Bay or adjacent streams.

***“Winter is not the favorite time of the year for gardeners, but in terms of lawns, there is one good thing about snow, it makes your lawn look as good as your neighbors.”***

– Clyde Moore

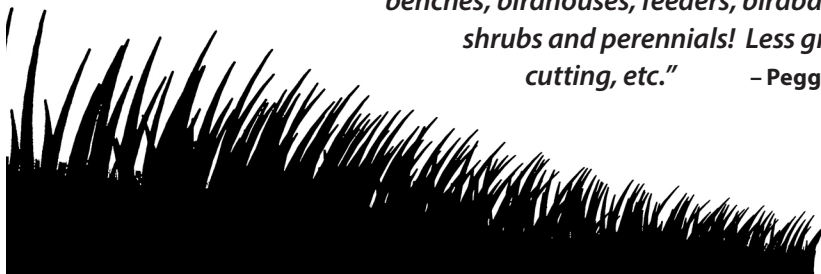
Name	Description	Damage	Signs
<b>Above-ground Pests</b>			
Cinch Bugs	Small black and white insects. To test for these, cut both ends of a large tin can, push one end into the soil, and fill with water. The bugs will float to the top if present	Suck sap from grass	Yellow and then brown patches
Sod Webworms	Larvae or caterpillar stage of several lepidoptera. Adults commonly seen flying in jerky, short flights as you walk through grass	Feed on grass blades at night	Small brown areas in lawn
<b>Below-ground Pests</b>			
White Grubs	Larval or grub stage of several species of beetles. Typically cream colored with a brown head and a dark posterior	Feed on roots	Brown areas on lawn
Billbug and Weevil	Look much like white grubs but are smaller and have no legs	Larvae feed on roots; adults feed on grass blades and stems	Brown stains on lawn

## Ground Covers

Alternatives to grass lawns are available and once established may result in less time and expense to maintain as well as being easier on the environment. The table below is a guide to common ground covers.

Quick Guide to Ground Cover Plants				
Ground Cover	Growth Rate	Height	Recommended Sites/Conditions	Light Preference
<b>Recommended (Less Vigorous In Terms of Spreading)<sup>1</sup></b>				
<b>Creeping Juniper</b> <i>Juniperus horizontalis</i>	Fast	1-2 ft.	Slopes and banks Hot, dry soil	Full sun
<b>Moss Pink (Creeping Phlox)</b> <i>Phlox subulata</i>	Medium	6 in.	Rock gardens or poor, relatively dry soil	Full sun
<b>Hosta (Plantain Lily)</b> <i>Hosta spp</i>	Slow spreading	Dwarf (3-4 in.) Tall (2 ft.)	Add bright spots to shady areas  Slightly moist soils	Partially shady  Will bleach in full sun
<b>Pachysandra (Japanese Spurge)</b>  <i>Pachysandra terminalis</i>	Medium	1 ft.	Massed plantings in shady, moist areas  Moist, well-drained soil	Full or partial shade
<b>Yucca</b> <i>Yucca filamentosa</i>	Slow spreading	2-3 ft. Flower stalk 4-6 ft.	Hot dry situations Any soil condition	Full sun
<b>Lilyturf</b> <i>Liriope muscara</i>	Medium	12-18 in.	Under trees and shrubs Border and foundation plants. Mass plantings on slopes  Average, well-drained soil	Heavy shade to full sun
<b>Mondo Grass</b> <i>Ophiopogon spp</i>	Slow	8-16 in.	Rock gardens, borders  Dry-moist soil	Shade to sun
<b>Sedum (Stonecrop)</b> <i>Sedum spp</i>	medium	Few inches to 2 ft.	Good on slopes Any dry soil	Full sun to part shade
<b>Ornamental grasses</b> Many species	Varies	1-10 ft.	Specimen or ornamental Dry-wet	Full sun

*“Reduce grass by planting/designing ‘outside garden rooms.’ Walkways, benches, birdhouses, feeders, birdbaths and, of course, bulbs, flowers, shrubs and perennials! Less grass means less fertilizer, less cutting, etc.”* – Peggy Cooney, GEMG



<b>Quick Guide to Ground Cover Plants</b>				
<b>Ground Cover</b>	<b>Growth Rate</b>	<b>Height</b>	<b>Recommended Sites/Conditions</b>	<b>Light Preference</b>
<b>Potentially Invasive Common Ground Covers</b>				
<b>Ajuga (Bugleweed)</b> <i>Ajuga reptans</i>	Vigorous	1-4 in.	Borders and under trees and shrubs Any soil conditions	Full sun—tolerates some shade
<b>English Ivy</b> <i>Hedra helix</i>	Vigorous	6-8 in. mat  Will climb trees and walls	Next to buildings and walls; under trees where grass will not grow; north or east facing banks  Moist, well-drained soil	Shade or semi-shade. Foliage will 'burn' or discolor in sun or extreme winter conditions
<b>Common Periwinkle (Myrtle or Vinca)</b> <i>Vinca minor</i>	Vigorous	6 in.	Under-planting trees and shrubs, on slopes, or north side of buildings  Dry to moist soil	Shade to sun
<b>Creeping Lilyturf</b> <i>Liriope spicata</i>	Vigorous	9-15 in.	Mass plantings. Aggressively spreads so is unsuitable as a border plant.  Average, well-drained soil	Shade to full sun
<b>Crown vetch</b> <i>Coronilla varia</i>	Vigorous	1-2 ft.	Dry steep slopes  Average soil	Sun
Adapted from Virginia Cooperative Extension <i>Selecting Landscape Plants: Ground Covers</i> , Publication 426-609				

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## REFERENCES

Open link: *Lawn care: Guidelines for a healthy lawn*

Reicher, Z. & Hardebeck, G. (1999). *Leaf mulching effects on turf performance*.  
Retrieved from: <http://www.agry.purdue.edu/turf/report/1999/page24.htm>

York County Master Gardeners, *Guidelines for a healthy lawn on the Virginia Peninsula*.  
<http://www.yorkcounty.gov/Home/VirginiaCooperativeExtension/HorticultureandNaturalResources.aspx>

### Virginia Cooperative Extension (VCE) Publications:

The VCE web site has extensive information on lawns. Most of the information in this chapter has been drawn from that site. Below is a list of VCE publications that address discussion points in this chapter. The websites where these can be found are <https://Resources.ext.vt.edu> or <https://vtechworks.lib.vt.edu>. (Type in the publication number [e.g. 456-018] in the search box.)

#### Wildlife

*Managing wildlife damage: Moles (2009)*. 420-201

#### Gardening and the Environment

*Creating a water-wise landscape (2009)*. 426-713

*Groundwater quality and the use of lawn and garden chemicals by homeowners (2009)*. 426-059

*Home landscape practices to protect water quality (2009)*. 426-723

#### Lawns

*A lawn to dye for- How to create a perfect lawn: Aerating your lawn*. CSES-38NP

*Aerating your lawn*, 430-002

*Compost: What is it and what's it to you*. (2018) 452-231

*Establishing lawns (2009)*. 426-718

*Lawn moss: Friend or foe? (2009)*. 430-536

*"Leave" them alone: Lawn leaf management (2009)*. 430-521

*Maintenance calendar for cool-season turfgrasses in Virginia (2009)*. 430-523

*Maintenance calendar for warm-season turfgrasses in Virginia (2009)*. 430-522

*Making compost from yard waste*. (2009). 426-703 (HORT-46P)

*Mowing to recycle grass clippings: Let the clips fall where they may! (2009)*. 430-402

*Selecting turfgrass*. (2009). 426-719

*Spring and summer lawn management considerations for cool-season turfgrasses (2009)*. 430-532

*Spring and summer lawn management considerations for warm-season turfgrasses (2009)*. 430-533

*Summer lawn management: Watering the lawn (2009)*. 430-010

*2021-22 Virginia turfgrass variety recommendations SPES-343NP*

#### Trees, Shrubs, and Groundcovers

*Selecting landscape plants: Groundcovers (2012)*. 426-609 (HORT-31P)

#### Convenience Centers for Disposal of Lawn and Garden Wastes

The five Waste Management Convenience Centers in Gloucester County operate on the following schedule:

*Monday - Friday: 8:00 a.m. to 7:00 p.m.*

*Saturday: 7:00 a.m. to 7:00 p.m.*

*Sundays: Closed*

*New Year's Day, Thanksgiving, and Christmas: Closed.*

*Other changes to the schedule will be posted at the Centers and in local newspapers.*





