



Moss in Lawns

I'm often asked about moss growing in lawns, and, more specifically, is this moss killing my grass? The answer is no. Moss is an opportunistic plant that will grow where turfgrasses are thin and weak, much like weeds. Moss does not persist in stands of dense, vigorously growing turf, but once it is established, grass plants will not spread into those areas.



There are several species of moss that grow and persist in home lawns. Unlike seed-bearing plants, mosses produce structures called sporophytes which produce spores that can be wind-blown from one area to another and germinate to form thread-like structures called protonemas. The protonemas will produce buds that develop into the short, leafy stalks that most people recognize as moss.

In order to obtain effective control of moss, one must carefully consider the reasons why it began to grow in the lawn. Encroachment of moss into lawns is usually the result of conditions that are not conducive to good growth of turf. Moss is most commonly associated with poor drainage; compaction; poor soil fertility; low soil pH; heavy shade; and excessive moisture. If any of these factors are limiting turf growth, moss can invade the lawn and establish a permanent residence.



There are very few products that will effectively kill moss and following label directions is important. Moss can also be scraped away with a garden rake or shovel. However, the first step in moss control is to improve soil conditions and a soil test can help you begin that process. Attempts to eradicate moss from a lawn are rarely effective unless changes are made for a dense, actively-growing turf to take its place.

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Fire Blight

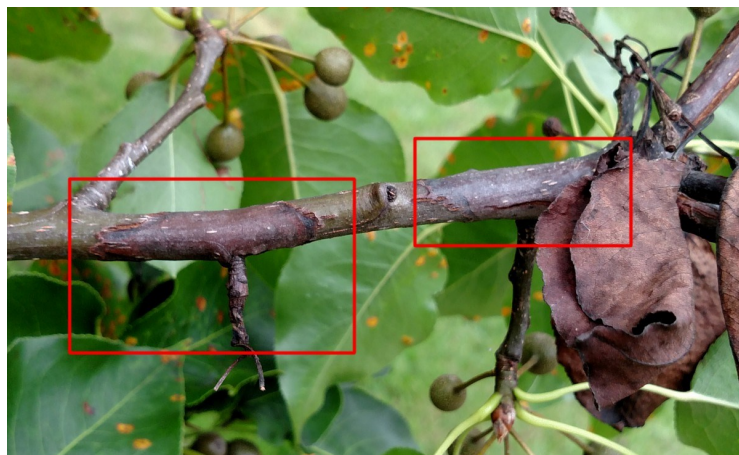
Fire blight is a harmful bacterial disease that impacts a wide variety of plant species, including hawthorn, ash, blackberries, and roses. Apple and pear trees are particularly susceptible to fire blight infections. Severely affected trees and shrubs often display disfigured shoots, stems, and blossoms, and in some cases, they may die due to fire blight.

The name "fire blight" is derived from the blackened, burned appearance of the affected plants. The bacterium responsible for fire blight, known as *Erwinia amylovora*, is native to North America and was introduced into northern Europe during the 1950s and 1960s. This pathogen causes the formation of cankers on the plants, which become active in early spring as temperatures rise and buds begin to develop. Active cankers produce a yellowish to white bacterial ooze that can appear several weeks before blooming. Insects, such as flies, play a role in spreading the bacterium by carrying this ooze from plant to plant.

During blooming, pollinating insects quickly spread the pathogen from flower to flower, initiating the blossom blight phase of the disease. Early symptoms of blossom blight may manifest 5 to 30 days after infection, depending on daily temperatures. This bacterium overwinters exclusively in holdover cankers on infected host plants.

Effective control of fire blight involves a combination of cultural and chemical approaches. Some plant varieties are more resistant to fire blight than others, and in areas where fire blight is prevalent, susceptible varieties should be avoided. Additionally, infected plant parts should be removed and destroyed to minimize sources of the bacterium. It is also important to control insects, as they can spread the bacterium.

Chemical control of fire blight is possible through the use of antibiotics or copper-containing compounds. For example, Streptomycin (Fertilome Fire Blight Spray) can effectively control fire blight if applied as soon as blossoming begins, but it cannot treat established infections. However, it's important to note that copper compounds are toxic to some plants susceptible to fire blight, so labels should be followed carefully.



Garden Calendar: July

Planting

- Plant Pumpkin seeds for a Halloween harvest.
- Use Portulaca or Marigolds to fill in bare spots of flower bed.
- Root cuttings of Azalea, Boxwood, Camellia, Gardenia, Holly, and Poinsettia in coarse sand. Cuttings should be 4-6 inches from new growth with lower leaves removed.
- Plant now for color in the fall: Marigold, Zinnia, Celosia, and Joseph's Coat.
- Daylilies may still be planted.
- Start cuttings for house plants: Ivy, Wandering Jew, Philodendron, and Begonia.
- Plant fall vegetables: Cabbage, Parsley, and Collards.



Fertilizing

- Do not fertilize Camellias after July 1.
- Fertilize Chrysanthemums around July 15.
- Fertilize all of the garden as you did in March.
- Fertilize lawns with well balanced fertilizer.



Pruning

- Remove faded flowers from Crape Myrtle to encourage a second blooming.
- Pinch back Mums before July 15. Cut back broken or withered fern fronds.
- All Vegetables must be picked regularly to ensure continued bearing.
- When cutting Boxwood into a hedge, make sure the base is wider than the top to allow sunlight to reach base of plants.
- Remove dead limbs from trees and shrubs.
- Roses should be pruned to encourage fall blooms.
- Remove flowers from Basil and cut Mint to encourage new shoots.



Mulch

- Check mulch on Azaleas and Camellias. Mulch should be at least 2 inches thick.
- Zinnias and Mums must be kept mulched to reduce necessary cultivation and conserve moisture.

Miscellaneous

- Water Azaleas well because they are setting flower buds now for next year.
- Cut grass at 2.5 - 3 inches during hot weather.
- Water the whole garden deeply once a week.



Home Accent

- Never leave house plants in a closed home over a vacation. Either water and place under a shady tree or have a friendly neighbor come in and water them for you.

In Bloom

- Caladium, Cleome, Crape Myrtle, Four-o'clocks, Hibiscus, Impatiens, Liriope, Marigold, Mallow, Moonflower, Oleander, Periwinkle, Plumbago, Portulaca, Salvia, Ageratum, Zinnia, Balsam, Butterfly Weed, Canna, Cosmos, Dahlia, Daylily, Funkia, Gladiolus, Lily, Lycoris, Lythrum, Petunia, Phlox, Rudbeckia, Scabiosa, Shasta Daisy, Snapdragon, Snow-on-the-Mountain, Tuberose, Verbena, Veronica, Althea, Buddleia, and Montbretia.



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Storm-Resistant Trees

Mississippi, like most states, has a wide range of climactic conditions. We have long, hot summers, but winters are relatively mild most years. Prevailing southerly winds much of the year bring warm, humid air from the Gulf of Mexico across the state often resulting in thunderstorms, tornadoes, and hurricanes depending on the time of year. Regardless of your location, with these thunderstorms, hurricanes, and tornadoes come high winds and flooding from torrential rains including storm surges along the Coastal areas. Moreso in Northern and Central Mississippi than Southern Mississippi, there are occasional ice storms in winter.

While native vegetation has adapted to a wide variety of environmental conditions, some species are better able to survive storm events than others. It makes sense to choose tree species for the landscape that can withstand these natural events. Storm-resistant trees will make your property safer and reduce future tree maintenance costs. Very few tree species are resistant to all these storm conditions, so prioritize those that are most likely to impact your landscape.

Tree species vary in their tolerance to ice accumulation. Those species most resistant to breakage from ice generally have strong branch attachment, flexible branches, low branch surface area, and straight trunks. Ice-tolerant species having one or more of these characteristics include bald cypress (*Taxodium distichum*), black walnut (*Juglans nigra*), sweetgum (*Liquidamber styraciflua*), white oak (*Quercus alba*), and eastern redcedar (*Juniperus virginiana*).

Tree species vary widely in their ability to tolerate high winds, and the ability of any individual tree to survive wind will also depend on its health. However, there are some characteristics that enable trees to adapt to high wind and increase their chance for survival such as high wood density and defoliation. These include live oak (*Quercus virginiana*), flowering dogwood (*Cornus florida*), American sycamore (*Platanus occidentalis*), blackgum (*Nyssa sylvatica*), sweet-bay magnolia (*Magnolia virginiana*), and crape myrtle (*Lagerstroemia indica*).



Live oak



Sweetgum

Tree species have varying tolerance to flooding. Tree roots need oxygen, and most tree species will not tolerate flooding during the growing season. Mature, vigorously growing trees of tolerant species are best able to withstand flooding. Bald cypress (*Taxodium distichum*), sweetgum (*Liquidamber styraciflua*), and common persimmon (*Diospyros virginiana*) are examples of a flood-tolerant trees. It is a relatively slow-growing tree commonly found on wet sites near flowing streams or rivers. This deciduous conifer's needles drop in the autumn.

The sodium in salt spray or seawater can have detrimental effects on trees, including damaged or disfigured foliage, reduced growth, or even death. The American holly (*Ilex opaca*), blackgum (*Nyssa sylvatica*), waxmyrtle (*Morella cerifera*), and Southern magnolia (*Magnolia grandiflora*) are tolerant of salt spray.

Several tree species that are resistant to storm stresses are not necessarily suitable to plant for other reasons. Other trees have brittle wood and should not be planted near structures, driveways, or roads. These include boxelder (*Acer negundo*), eastern cottonwood (*Populus deltoides*), red maple (*Acer rubrum*), and silver maple (*Acer saccharinum*). Finally, make sure your selected tree is not an invasive plant such as the Chinese tallow (*Triadica sebifera*). For more information and other lists of storm-resistant trees, refer to Publication 3111, *Storm-Resistant Trees for Mississippi Landscapes*.



Waxmyrtle



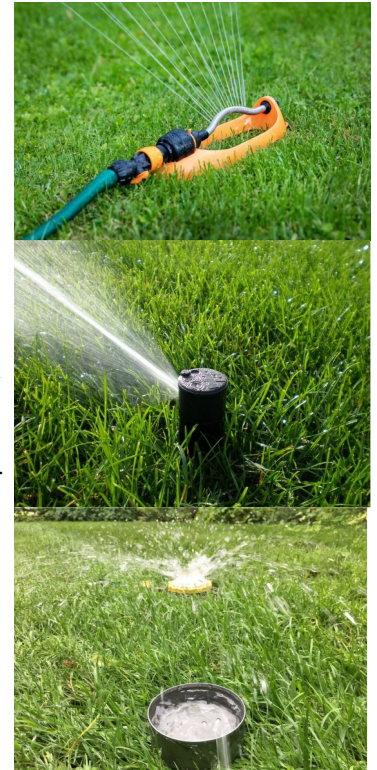
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Lawn Irrigation

As we approach the typically hot, dry portion of our growing season, barring any tropical systems, homeowners usually ask about how much and how long to water their lawn. There are too many variables to give a solid answer to this question. You will need to do some experimenting and testing with your sprinkler/irrigation system to determine what is needed for your lawn.

It is recommended that your lawn gets 1- 1.5 inch of water per week through irrigation or natural rainfall. A way to tell how much your sprinklers are putting out is to use the tuna can technique. A tuna/wet cat food can is typically around one inch deep. Place empty tuna/wet cat food cans at various spots around your yard within the range of your sprinklers. Turn on the sprinkler/ irrigation system and allow it to run for about 30 minutes. After 30 minutes, measure the amount of water collected in each can. If the cans collected an inch of water, then you know you need to water for 30 minutes. If the cans collected more or less than this amount, then calculate approximately how long you need to water your landscape so that it receives the recommended one inch of water in each watering session. If there is runoff before water application reaches the one inch, more waterings per week may be needed. This is especially true on clay soils, sloped terrain, or compacted soils. You might be able to only apply ½ inch per watering, so you would need to do this twice per week.

On lawns with compacted soils, core aeration would be highly recommended to help increase the rate at which the soil absorbs water. The best time to irrigate is early in the day, preferably before sunrise. This helps minimize evaporation loss and limits the time the lawn is wet, which reduces the potential for disease. Remember that deep watering promotes deeper root growth and produces healthy, durable turf.



Important Changes to the Private Applicator Certification Training

Private pesticide applicators will have new training requirements beginning July 1. The Mississippi Pesticide Safety Education Program has updated its online and face-to-face certification programs to meet this demand.

The new mandated training and competency requirements from the U.S. Environmental Protection Agency are for applicators who use restricted use pesticides on farmland and need to renew or obtain certification.

The new trainings are designed to provide increased public health and safety benefits by raising safety standards to be consistent with commercial applicators. Trainings consist of video modules covering new safety, environmental protection and application procedures. These modules prepare applicators for the 55-question competency exam, which requires a score of at least 70%.

Mississippi's online and face-to-face certification programs are developed and delivered by the Mississippi State University Extension Service. For private pesticide applicator online training, visit <http://msuext.ms/dkp8h>. To learn about upcoming in-person trainings, visit <https://extension.msstate.edu/calendar> or contact your local Extension office. The new trainings cost \$60 per applicant.

The current online training program has been temporarily removed and will go live July 1. The online private applicator training consists of video modules and an online proctored exam. While the video modules are accessible on mobile devices, the online exam will require a laptop or desktop computer, a webcam, adequate internet connection and valid photo identification.

The online test will be proctored by the online proctoring system Honorlock. Alternatively, the private applicator exam can be taken either online or as a paper test at a local MSU Extension office.





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Pumpkins for Fall

Pumpkins are a warm season vining crop that belong to the gourd family. Pumpkins come in an assortment of shapes, sizes, textures, and colors. For example, there are orange, red, yellow, white, blue, and even multicolored pumpkin varieties.

For Halloween pumpkins, seeds should be planted between late June and mid-July, depending on the variety. Build rows 4-8 feet apart and space each hill 2-5 feet apart within the row. You can either start seeds in a container or seed directly into the garden soil. If beginning in a container, allow the seeds to grow until there are three “true” leaves, thin to one healthy seedling, then plant one seedling per hill. If planting directly into the garden soil, plant the seeds 1-1.5 inch deep at a rate of two to three seeds per hill. After the seedlings have grown for 2 weeks, select the best seedling per hill then remove any others. Plants from seeds sown directly into the soil may have less uniform production compared to seeds that began in containers.

Pumpkins grow best in well-drained soil that has a pH between 6.0 and 6.8. Have your soil tested to determine the fertility needs for your particular growing area. When applying fertilizer, make sure to avoid contact with the leaves as this can result in leaf burning.

Utilizing black plastic mulch is beneficial to help control weeds, reduce fruit rot, and conserve moisture and fertilizer. Keep in mind that if using black plastic mulch, it needs to be placed over the rows before planting occurs. Alternatively, you can use bark products, pine straw, or hay.

Providing adequate water throughout the growing season is important for pumpkin production. One inch of water per week is recommended early in the season, while up to 2 inches of water per week may be needed during the last 30 days before harvest.

Pre-emergence herbicides kill germinating weed seeds and are effective at controlling annual weeds. Pre-emergence herbicides are applied to a clean plant bed immediately after planting. Sethoxydim for grasses, halosulfuron for nutsedge, or shielded sprays of glyphosate can be used as a post-emergent on actively growing weeds.

Squash vine borers, squash bugs, cucumber beetles, and spider mites are insects that commonly affect pumpkins. A regular, scheduled spray program combined with an IPM (Integrated Pest Management) approach is the best means for control. This approach includes regular scouting, knowing pest threshold limits, and spraying when necessary with labeled insecticides. Permethrin and bifenthrin are the most effective insecticides, followed by spinosad, malathion, and carbaryl.

The most common pumpkin diseases are powdery mildew and downy mildew. Downy mildew attacks when temperatures drop into the 50s and moisture is present for 6 to 12 hours, while powdery mildew does not require moisture to establish. Selecting resistant varieties and an IPM approach are the most effective methods for control. Use chlorothalonil, mancozeb, or copper sulfate for these diseases, making sure to get complete leaf coverage. Make sure to read and follow all pesticide label instructions. The label is the law.





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Squash Vine Borer

The squash vine borer is, as its name implies, an insect pest of squash and other cucurbits. This insect pest can turn what appears to be healthy squash plants into a wilted mess. Plants often look healthy one day and the next day are wilted and dying. The adult form of this pest is a black and orange/red moth that flies during the day seeking to lay eggs on the leaves, stems, and vines of squash plants. Once hatched the caterpillars will bore into the plant feeding on plant tissues. At this point, control is difficult, and the caterpillar will rapidly grow consuming large amounts of stem tissue. This in turn causes the plant to wilt and die. Once mature they will exit the plant and tunnel into the soil to pupate.

The life cycle of this pest and its ability to rapidly damage plants dictate that effective control must be targeted at the eggs and larva, prior to entering the plant. Chemicals that are frequently used to control this pest include permethrin and zeta-cypermethrin. Spraying weekly, coating the leaves and stems, should be adequate to protect against this pest. However, later in the season as insect pressure increase, you may need to increase the frequency of application as the product label allows. Make sure to harvest any ripe squash before application to avoid oversized fruit while adhering to the 1-day pre-harvest interval. Lastly, make sure to follow the labeled application rates and harvest intervals for each crop on which you apply these products.



Calendar of July Events

Date	Event
	HANCOCK COUNTY MASTER GARDENER'S MEETING—KILN LIBRARY
July 10th	The Hancock County Master Gardeners will be hosting a meeting July 10th, 1:00 PM at the Kiln Library (17065 MS-603, Kiln, MS 39556). Dr. Christine Coker will be providing a presentation on "How to Get the Most from Your Seed Catalog". <u>This is a public event, and no RSVP is required.</u>
	LAWN CARE BASICS
July 24th	Tim Ray at Harrison County Extension will host a Lawn Maintenance program via Zoom beginning at 1:00 PM (link below can be typed in, clicked on, or copied and pasted). He will cover the basics of lawn care to help homeowners make the best decisions regarding their lawn care needs. This is a free event. https://msstateextension.zoom.us/j/91352372427 Meeting ID: 913 5237 2427
	LANDSCAPE MAINTENANCE
July 25th	Tim Ray at Harrison County Extension will host a Landscape Maintenance program via Zoom beginning at 1:00 PM (link below). He will cover some of the issues homeowners face including pruning, watering, fertilizing, etc. This is a free event. https://msstateextension.zoom.us/j/93622987131 Meeting ID: 936 2298 7131

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