

Mowing your Kentucky Lawn

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Mowing is a recurring cutting of a portion of a grass shoot. Lawns are mowed to maintain topgrowth within a specific range, to control weed plants that are intolerant to mowing, or to sustain an ornamental turf. Mowing is usually thought of as the most simple of lawn maintenance practices; however, even though we perform it more than any other, it can result in mistakes.

Types of lawn mowers

The practice of mowing as we know it is less than 200 years old. Early on, mowing was performed by sickles, scythes, and grazing animals. As lawns became more important, mowing equipment and management practices changed to keep up with the desire for uniform, defined green spaces. Today, lawn mowing is usually performed by either rotary or reel mowers.

Reel mowers

Reel mowers have a stationary bedknife and a set of spinning blades that come in contact with the bedknife (Figure 1). The two blades come together, and the grass shoot is scissored between the blades, resulting in a clean cut. A clean cut is important to prevent leaf bruising and tearing.

Reel mowers are very effective at mowing short grass and are used almost exclusively on golf courses and athletic fields. These mowers also do well on tough-to-mow grasses such as bermudagrass and zoysiagrass. However, if the desired lawn height is above 1.5 inches, reel mowers lose their effectiveness and tend to lay the grass over without cutting it.



Figure 1. A reel mower showing scissoring action with reel to bedknife (top) and a standard lawn reel mower (bottom).



Figure 2. A rotary mower showing single blade (top) and a typical homeowner rotary mower (bottom).

Rotary mowers

Rotary mowers cut grass with a single blade spinning horizontally (Figure 2). Larger mowers have multiple blades on the mower deck. For each location on the deck, only one blade is cutting the grass. Because there is only one blade coming in contact with the grass leaf blade, this type of cut is known as an impact cut. Although the impact cut is typically sufficient for lawns, the quality of cut will never be as great as the scissoring action of a reel mower.

Rotary mowers are very effective at mowing taller grass as well as stems of grasses and weeds. These mowers also have the ability to mulch clippings (i.e. cutting into very short lengths), which results in a better appearance and causes the clippings to break down more quickly in the soil. Rotary mowers are not effective at mowing grasses short and often result in scalping. They can also be dangerous because of the spinning blade, which throws debris and can sever human appendages. Extreme care should be taken when operating any power equipment.

In the home lawn market, both walk-behind (push mowers) and riding rotary mowers are available. There is no difference in the way these mowers cut the grass—just a difference in size. Riding mowers will usually cut a larger area with more speed than a walk behind. Care must be taken with riding mowers because of their weight. If mowing patterns are not frequently changed, ruts and compacted soil can result. Compacted soils will require some form of cultivation (i.e. aeration) to improve growing conditions for the root system.

Blade sharpness

A sharp mower blade is very important for the look and health of your lawn. Dull blades cause leaf bruising and tearing. Two or three days after mowing leaf tips will have a brown, shredded appearance. Leaf shredding is most common with perennial ryegrass and tall fescue. In Kentucky, shredding is at its greatest during May and June, because of the abundance of tough flowering stems during this period. Shredded leaves will have a grayish-brown appearance and may be stunted (Figure 3). Not only does shredding reduce aesthetics, but it also has been shown to increase lawn diseases.

In addition to spoiling appearance and encouraging disease, dull mower blades increase fuel consumption and create wear on engine parts. Research has shown that dull blades can increase fuel usage by as much as 20 percent.

Sharpening rotary blades may be done by a mower repair shop but can also be done with a few simple tools in your garage (Figure 4). Sharpening and properly adjusting a reel mower is not as easy and will usually involve the purchase of a specialized sharpening kit. All mowers will likely need to be sharpened several times each year.

Mowing frequency and height

The height you choose to mow your lawn will have a great impact on growth characteristics. Low mowing will result in more leaf tillers per square inch, thus density will increase. Low heights will also result in finer leaf texture and darker leaf color (Figure 5) but will also result in shallower root systems that can reduce summer drought tolerance. Low mowing reduces rhizome growth, which can lead to decreased recovery following traffic. Less tolerance to diseases and insects is another possible consequence. Low mowing may also thin a canopy sufficiently to allow weeds to germinate in the lawn (Figure 6). Furthermore, when grass is cut too low sunlight easily reaches the soil surface, which contributes to the germination of problem annual weeds such as crabgrass. Optimum mowing heights recommended for Kentucky lawns are listed in Table 1.



Figure 3. Shredded tall fescue leaf blades from a dull rotary mower blade.

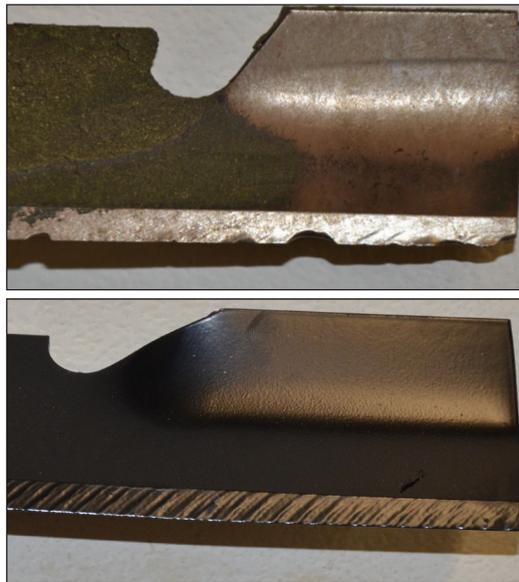


Figure 4. A dull and damaged rotary blade (top) and a new sharp rotary blade (bottom).

Table 1. Mowing heights for Kentucky lawns.

Grass species	Optimum height (inches)
Bermudagrass	1.0–2.0
Kentucky bluegrass	2.0–3.5
Perennial ryegrass	1.5–2.5
Tall fescue	2.0–3.5
Zoysiagrass	1.0–3.0

The height you mow your lawn will also dictate how often you need to mow. For instance, if the lawn is mowed at 3.5 inches, it may only need mowing once each week. As the height is lowered, mowing will have to be performed more frequently. Golf course greens are a good example: They are the shortest grass on a golf course and must be mowed every day to maintain that height.

The type of grass and the time of year will also determine how often your lawn will need to be mowed. A bermudagrass lawn, for instance, will grow very quickly during the summer but will slow down in the spring and fall (and not grow at all in the winter). Although zoysiagrass is a warm-season grass like bermudagrass, the growth rate is much slower during the summer; thus mowing frequency will not be as high. Cool-season grasses will grow quickly during the spring and fall but slow down during the summer. Tall fescue and perennial ryegrass will require more frequent mowing than Kentucky bluegrass due to faster growth rates.

There is no need for regular mowing during the slow growth season for any grass. In fact, frequent mowing of cool-season grasses during a hot and dry period can severely stress the lawn and even result in death.

An important factor to consider with mowing heights is how much leaf area to remove in one mowing. Ideally, no more than one third of the leaf should be removed at one time. If the lawn is to be maintained at 2 inches, it should be mowed when it reaches 3 inches. Removal of greater than one third of the leaf at one time can lead to clumps of dead clippings that are unsightly and block sunlight to the living grass underneath (Figure 7). (Mowing when the lawn is wet can also lead to clumping of grass leaves.) The lack of sunlight will cause yellowing of the living grass and can even cause death.

Removing more than one third of the leaf at one time also has a negative effect on the root system. When the lawn is “scalped” (removing more than half the plant at one time), the plant suffers a reduction in the leaf tissue that captures sunlight and makes sugars that are needed to regrow roots. This weakened lawn is more susceptible to environmental stresses and increased weed pressure.

Occasionally, homeowners will mow their cool-season lawns shorter in the fall and spring and higher during the summer stress. This may be desirable because of reduced disease pressure in late fall, and removal of dead leaf material in spring. If different heights are desired, it is best to reduce mowing heights gradually rather than doing so in one mowing.

Lawn grasses usually struggle under tree shade, but a few Kentucky lawn grasses will tolerate some shade (see UK Extension Bulletin ID-203: *Trees, Turf, and People*). Grasses growing in shade will grow more quickly than in full sun. To reduce scalping in shaded areas, increase the mowing height to allow for the faster leaf growth.



Figure 5. Tall fescue lawn mowed at tall (top), medium (middle) and short (bottom) heights. Note differences between density and color of the grass at the different mowing heights.

Clippings

Many homeowners commonly give two reasons when asked why they bag their lawn clippings. They say either that clippings increase thatch or that the clippings are unsightly. If mowing frequency is sufficient for the type of grass and time of year, excessive clippings should not be a problem. Mulching mowers can also help to cut clippings into very small pieces that easily fall into the lawn canopy (Figure 8). Grass clippings are primarily made of water and break down very quickly following mowing. Because of how quickly cut grass leaves break down, they are essentially a non-factor in thatch production. Thatch (a layer of organic material at the soil surface) is primarily composed of various degrees of decomposed roots, stems, rhizomes, and stolons. Removal of clippings may be warranted if conditions are such that clumping will occur (wet leaves, tall grass) or if disease is prevalent on the lawn. The vast majority of lawns should not have clippings removed. Clippings are a great source of organic material to help improve poor soils. Clippings have also been shown to provide as much as 25 percent of a lawn’s yearly fertilizer needs. Returning clippings



Figure 6. Low mowed tall fescue showing an invasion of crabgrass.



Figure 7. Clumps of grass clippings from mowing more than one third of the leaf at one time.

to the lawn is an excellent practice from both environmental and financial perspectives. If clippings are not being used for mulching in beds or gardens, bagged clippings have to be disposed of. This causes extra work and uses space at landfills—and many landfills are no longer accepting yard waste.

Aesthetics

Having a well-manicured lawn will improve the aesthetics and value of your property. Striping a lawn is often viewed as the “icing on the cake.” Stripes are created by laying grass over in opposite directions on alternating passes of the mower. (Figure 9). Reel mowers have rollers that will lay the grass over, and most new rotary mowers include a plastic safety shield on the back that helps to create stripes. Stripes may also be created by simply brushing grass in different directions. A checkerboard appearance is created by using a striping pattern during an initial mowing and then rotating the striping pattern by 90 degrees for the next mowing. By varying striping patterns every other mowing, soil issues such as wheel ruts and compaction can be avoided. Varying patterns are very important when using heavy riding mowers. Grain is created when grass is mowed in the same direction time after time. Grain refers to the leaf blades leaning in one direction. This can cause issues on golf greens but is not a concern on home lawns.

By keeping your mower in proper operating condition with a sharp blade and using the ideal mowing frequency for your type of grass and the time of year, you will have many of the lawn mowing basics covered. By leaving clippings on the lawn and striping for aesthetics, you can easily make your lawn the envy of the neighborhood.



Figure 8. A mulching rotary mower showing a fully enclosed deck (lacking an exhaust chute) and a second blade to recut leaf blades.



Figure 9. A striped Kentucky bluegrass/tall fescue lawn.

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