



# Mowing Your Lawn

Mowing is the most time consuming maintenance practice related to lawn care, but many aspects of mowing are misunderstood and performed incorrectly. Proper mowing practices play a vital role in helping to maintain a healthy, sustainable home lawn. Lawns often look attractive after mowing, so it is easy to assume that grass thrives on mowing. In reality, mowing is a destructive process that injures the grass plant. Each mowing temporarily stops root growth, decreases carbohydrates, increases water loss, decreases water absorption by the roots, and creates entry routes for disease. Sound mowing practices help minimize these stresses. This publication will answer the most common questions related to mowing your lawn:

- How often should I mow?
- What is the correct mowing height?
- Should I collect grass clippings?
- How do I stripe my lawn?
- What maintenance does my lawnmower need?

## Mowing frequency

The frequency of mowing should be based on the growth of the grass. As a general rule, mow as often as needed so that no more than one-third of the total leaf area is removed in a single mowing. For example, if you maintain a Kentucky bluegrass lawn at a 2-inch height, the lawn should be mowed when the grass reaches 3 inches. Removing more than one-third can lead to scalping which decreases the aesthetic appearance of the lawn. More importantly, scalping reduces the reserve carbohydrates within the plants that are used to re-grow shoots and leaf tissue after mowing. Depleting the carbohydrates reduces the capability of the grass plant to withstand environmental stresses.

Shorter mowing heights also require more frequent mowing. This is contrary to popular belief but is demonstrated in Table 1. A lawn maintained at a 1-inch height would have to be mowed every 2.5 days

to remove only one-third of the above ground tissue, whereas a lawn maintained at two inches would not have to be mowed for five days.

**Table 1. Mowing frequency as determined by the one-third rule**

Mowing height (inches)	Height of grass at mowing (inches)	Amount of grass removed (inches)	Estimated mowing frequency (days)*
0.5	0.75	0.25	1.3
1.0	1.5	0.5	2.5
1.5	2.25	0.75	3.8
2.0	3.0	1.0	5.0
2.5	3.75	1.25	6.3
3.0	4.5	1.5	7.5
3.5	5.25	1.75	8.8
4.0	6.0	2.0	10.0

\*Estimate based upon a daily growth rate of 0.2 inches

A related topic is when to begin mowing in the spring and when to stop mowing in the fall. Often, the first mowing of the spring is helpful to remove dead leaf tissue on top of the grass canopy. Removing this excess tissue helps sunlight reach the live grass underneath and stimulates the lawn to begin actively growing. The exact date to begin mowing varies and depends on geographic location, environmental conditions, and the type of grass species in the lawn. In general, mowing can begin after the ground has thawed, the grass regains a green color, and it slowly begins growing. Mowing should continue into the fall as long as the grass is actively growing.

## Mowing height

In general, taller mowing heights result in healthier grass that is better able to resist drought and limit the occurrence of weeds. The mowing height also depends on the turfgrass species and environmental conditions. Four turfgrass species are primarily used in Iowa lawns,

and include Kentucky bluegrass, fine fescue, perennial ryegrass, and tall fescue. Perennial ryegrass and fine fescues can be mowed slightly shorter compared to Kentucky bluegrass and tall fescue (Table 2).

**Table 2. Recommended mowing heights**

Species	Mowing height (inches)	
	Cool weather	High-temperature stress period
Kentucky bluegrass*	2–2.5	2.5–3
Perennial ryegrass	2–2.5	2.5–3
Fine leaf fescue	1.5–2	2–2.5
Tall fescue	2–2.5	2.5–3

**\*In lawns where species are mixed, use the higher of the two recommendations.**

Increase the mowing height of cool-season species during the stressful summer months. Taller mowing heights insulate the crown of the plant against high temperatures, provide more leaf area thereby increasing photosynthesis, and encourage deeper root systems to obtain more water. These practices help the lawn withstand periodic high-temperature and drought conditions. The height may be lowered in the fall when the temperatures cool and more consistent rainfall returns.

The recommended range in mowing heights also reflects cultivar differences within a species. For instance, many common Kentucky bluegrass cultivars have more erect growth habits compared with newer cultivars. Similar differences also apply to perennial ryegrass and tall fescue. For more information, refer to Iowa State University Extension and Outreach publication [“Selecting a Grass Species for Iowa Lawns” \(HORT 3023\)](#).

Mowing below the recommended range can scalp the turf and lead to rapid deterioration of turfgrass quality (Figure 1). Excessively close mowing heights decrease the total leaf area, carbohydrate reserves, and root growth, thereby creating a situation where plants are unable to produce enough food to meet their own demands. This makes the plants more susceptible to drought, high temperature, and wear injury. In addition, the bare areas created by a decrease in lawn density increase the chances of weed problems.

Turfgrass also can be mowed too high. Mowing above the recommended ranges reduces tillering and causes matting of the grass. Reduced tillering results in fewer and coarser plants, while matted grass creates a microenvironment that encourages disease development.



**Figure 1. Scalping occurs when the one-third rule is disregarded and the grass is mowed too short, too fast. Not only is scalping unappealing aesthetically but it also is detrimental to the health of the grass.**



**Figure 2. Clippings that do not filter into the canopy should be removed.**

### Grass clippings

A common misconception about grass clippings is that they contribute to thatch. The truth is that grass clippings contribute very little to thatch development because clippings are primarily cellulose and decompose easily. Therefore, removing grass clippings to control thatch is ineffective.

The need to remove grass clippings depends on mowing frequency. Regular mowing eliminates the need to collect grass clippings. In fact, grass clippings returned to the yard release nutrients back into the soil and can reduce fertilizer applications. Only in situations where clippings fail to filter into the turf canopy should they be removed (Figure 2).



## Striping your lawn

Striping is an easy way to add visual interest to your lawn. Stripes are created when the grass blades lean in different directions, creating the illusion of stripes. Dark colored stripes appear when the grass blades lean towards you and light colored stripes appear when the grass blades lean away from you. Specialty commercial mowers use metal rollers to create stripes. However, stripes also can be created using a standard mower by mowing back and forth across the lawn in opposite directions (Figure 3). The rear skirt on the mower helps bend the grass blades in different directions (Figure 4). Be sure to choose a different direction each time you mow.

## Mower operation

Proper use of mowing equipment requires knowledge about mowers, blade sharpness, and safety. Match your mower capacity with the size of the lawn so that mowing can be done in a reasonable amount of time. A riding mower is appropriate if the lawn is large, flat, and full of open spaces. A walk-behind mower is more appropriate if the lawn is small with many trees.

Reel and rotary are the two basic types of lawn mowers. Motorized reel mowers are generally more expensive and will not cut high grass. They do, however, produce a smooth, even cut on close-cut turf. Rotary mowers cost less, cut high grass, and have a blade that is easy to sharpen. However, rotary mowers can be dangerous and noisy due to the engine and rotating blade. They also are more likely to scalp on uneven surfaces.

For either type of mower, a sharp blade is vital to a quality cut. Mower blades need to be sharpened at least once per year. Many home improvement stores will sharpen blades for rotary mowers whereas reel mowers often must be sharpened by a professional with specialized grinding equipment. Dull blades shred the grass (Figure 5), which increase the ports of entry for disease. A dull mower blade leaves a uniform white cast to the lawn. Sharp blades are especially important for ryegrass and tall fescue. Cool-season grasses produce seed head stalks in June that are removed during routine mowing. These dense leafless stalks produce a shredded cut that can decrease mowing quality.

In addition to sharp blades, a quality cut is easier to obtain when grass is dry. In fact, lawns are best mowed when grass is dry. Clippings are more easily dispersed across the lawn and pressure from diseases is reduced. Lastly, there is less chance of slipping and being injured by the mower. It is important to remember that power



**Figure 3. Dark colored stripes appear when the grass blades lean towards you and light colored stripes appear when the grass blades lean away from you.**



**Figure 4. The rear skirt on rotary mowers can be used to create stripes.**



**Figure 5. A sharp mower blade (left) makes a clean cut. A dull mower blade (right) frays the leaf tissue.**

mowers can be dangerous and cause serious injury. Read the operator's manual, become familiar with the equipment, and use common sense.

### Safety precautions when mowing

- Review the operator's manual.
- Remove debris from lawn.
- Keep children and pets at a safe distance.
- Keep feet and hands away from blade.
- Wear sturdy shoes and long pants.
- Operate mower at low travel speed.
- Always push mower, do not pull toward self.
- Watch footing on wet areas and slopes.
- Do not leave engine running unattended.
- Do not disconnect any safety switches.
- Refuel engine only when it is shut off and cool.
- Stop engine and disconnect spark plug wires prior to working on blade or engine.

### Mower care for winter storage

Taking time in the fall to prepare the mower for winter storage extends the mower's engine life and saves time the following spring.

1. Remove any remaining gas by letting the mower run until all the fuel is used and the mower stops, or by draining and discarding any remaining fuel. Alternatively, drained fuel can be added to a full tank of gas in your car, or a gasoline stabilizer can be added to the undrained mower tank.
2. Disconnect the spark plug or battery to prevent an accidental startup.

3. Remove any dried grass or other debris from under the deck. Wipe off grease and grime from the deck and other parts of the mower. If desired, use a mild soap and water solution.
4. Check the list of seasonal chores listed in your owner's manual. For example, check belts, clean engine cooling fins, change the oil, sharpen the blades, and grease fittings.

### For more information

For more information on lawn care, the following publications are available at your county extension office, the [Iowa State University Extension and Outreach online Store](https://store.extension.iastate.edu/) (store.extension.iastate.edu/).

[“Fall Tips to Ensure a Healthy Green Yard for Spring” \(HORT 3021\)](#)

[“Lawn Fertilization” \(PM 1057\)](#)

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