



**Count on it.**

## **Making Tall Grass Short**

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Mowing doesn't seem like a big deal other than it is time consuming, however, most don't realize what really happens when grass is mowed and how a good regimen of mowing practices can improve the quality of turfgrass in your parks and on your sport fields. This article will examine the physiological effects of mowing, the differences between rotary and reel mowing and offer suggestions for making the process of mowing kinder and gentler on your turfgrass.

### **Turfgrass Physiology**

Unlike trees and most other plants, turfgrasses have evolved with their crown or growing point at or slightly below the surface of the ground. This is a result of years of grazing by animals and is what gives them the ability to continually re-grow after mowing or grazing. However, make no mistake about it, mowing is a stress on turf. It reduces the plants ability to photosynthesize or, in other words, produce its' own energy from sunlight and CO<sub>2</sub>. The response of the plant then is to use any energy it has stored to replace this removed tissue so it uses its' stored carbohydrate reserves to produce top growth or leaf tissue at the expense of root growth. Mowing, especially with dull or poorly adjusted blades, also creates wounds that are entry sites for disease causing fungi and bacteria. On the other hand if you don't mow grasses they become thin, they lie over and do not make a very good playing surface.

Fortunately, grasses are also very adaptable and by following a few good mowing practices you can reach equilibrium between mowing and turfgrass health. When mowed regularly and at the right height for the species the turfgrass plant will respond by increasing the number of leaves it produces to compensate for the loss of length. This will enhance protection of the crown and increase wear tolerance. The root system will adapt by producing a shallower but denser mat of roots. The leaf blades will be more oriented more vertically creating better ball roll and playability.

So, what does it mean to mow regularly and what is the right height to mow. Generally speaking the more often you mow the better the grass plant will adapt to mowing. Most professional baseball and football and many other intensely managed turfgrass areas are mowed daily. It has been a common practice for many years to mow golf greens daily. However, this is not realistic in most park situations so the rule of thumb is that you should never mow any more than 1/3 of the grass blade off during any one mowing. For example, if your cutting height is two inches, you should mow again before it reaches three inches. This could mean in the spring and fall you might have to mow twice or even three times per week and in the summer, once per week might prove sufficient. In warm season turfgrasses the period of rapid growth is in the summer.

Mowing height is a little more complicated. It is dependent upon the species of grass and sometimes even on the specific cultivar. In general, however, most park grasses and, more specifically, sports turf are mowed too high. Remember, the taller the grass the less dense it becomes, the less protection there is for the crown and consequently the less use and/or abuse it can take. For cool season grasses such as Kentucky bluegrass and perennial ryegrass used in sports turf applications, the ideal height would be between 1 1/2" and 2 1/4". Many baseball infields in the north are mowed at even 1" or less. This height range seems to provide the best balance between top growth/density and root growth/density. The dilemma here is that as you lower the height of cut you lessen the amount of growth before you have to mow again without violating the 1/3 rule. In general park situations mowing between 2" and 3" is adequate.

Warm season grasses handle mowing at lower height much better than cool season grasses. Bermudagrass used on sport fields for example, should be mowed at 1 1/4" or less. Bermudagrass is very intolerant of shade, thus, the taller it is the more it shades its own stem producing a "leggy" plant that produces a large hole in the turfgrass canopy if scuffed by a ball or deviated by a cleat. Most intensely managed bermudagrass sport fields are mowed between 3/4" and 1/2". Warm season general park turfgrasses should be mowed between 1 and 2 1/2" depending on the use requirements.

When developing, renovating or overseeding fields be sure to study the specific mowing requirements as well as other characteristics of species and cultivars you intend to use to ensure the right choice for your needs. The National Turfgrass Evaluation Program

(NTEP) conducts research on turfgrass throughout the country. It is a cooperative program between the National Turfgrass Federation, Inc. and the United States Department of Agriculture. Research results can be found at [www.NTEP.org](http://www.NTEP.org).

### **Rotary vs. Reel Mowers**

The difference in quality of cut and the choice of using a rotary or reel mower on your turfgrass is becoming more difficult to make. It was once pretty simple. A reel mower gave the best quality of cut at low mowing heights and if sharp and properly adjusted plus they gave the added benefit of “striping”. At higher heights of cut they had a tendency to lay the grass over and provide a less desirable cut. Rotary mowers, on the other hand, traditionally, were much better at high heights of cut but scalped at lower heights and couldn’t give the “striped” look. Today, rotary mowers can cut as low as  $\frac{3}{4}$ ” with little scalping and reel mowers can cut as high as 2” or more without laying the grass down. Some rotary mowers on the market have a full roller behind each deck to give the “striping” look.

Here’s the skinny as far as mowing heights are concerned – if you are mowing consistently at 1  $\frac{3}{4}$ ” or less a reel mower might be a better choice and if you are consistently mowing at 1  $\frac{1}{4}$ ” or greater a rotary might be a better choice. The overlap in mowing heights depends upon turf species and cultivars and level of turf management. But that’s not all you have to consider. Both daily and long term maintenance are greater with reel mowers and operator training is more intense. Rotary mowers on the other hand must be sharpened weekly but they are more forgiving in taller grass and will cut weeds such as dandelion and buckhorn very well.

### **Recommendations**

Hopefully you are more knowledgeable on mowing (Making Tall Grass Short).

Following are a few tips to increase the quality of your turfgrass. First, always abide by the 1/3 rule. Mowing is, in and of itself, a stress on turfgrass and everything you do to lessen the stress will create a healthier plant.

Second, choose a mowing height and stick to it. When you drastically raise and lower your height of cut it is harder for the plant to adapt, furthermore it is difficult to lower the height of cut without violating the 1/3 rule further increasing the stress on the plant.

Finally, choose a mower best suited for your situation. If you have the ability to maintain a reel mower and it falls within the height of cut for your species it will give the best quality of cut if it is sharp and adjusted properly. Reel mowers are not very forgiving though, a slight maladjustment, a dull reel or bedknife or hitting a stone can give a very poor quality of cut.

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