EVALUATING YOUR SPORTS TURF MOWING PROGRAM

Dr. James A. Murphy*

Mowing Height

Turfgrass species and variety, mowing frequency, environmental conditions, and available management resources are factors that govern the lowest mowing height possible for a turf. Tall fescue is best mowed at heights of 2 inches or more. At lower heights, tall fescue will steadily thin out and become infested with weeds. Perennial ryegrass can be mowed as low as 0.5 inch under intensive management including routine mowing, irrigation, and pesticides; however, mowing heights of 2 to 3 inches are necessary under less intensive management. Certain varieties of Kentucky bluegrass can tolerate mowing as low as 1 inch; however, annual bluegrass will eventually invade and dominate under such low mowing. A 1.5- to 2.5 inch mowing height is more acceptable for Kentucky bluegrass grown under moderate levels of management.

The budget and labor constraints placed on the field managers at many school and municipal operations typically do not allow mowing heights lower than 2 to 2.5 inches for a majority of fields. In some cases, more intensive mowing management is feasible on limited basis for high priority playing fields.

Mowing towards the lower end of a species tolerance range will stimulate shoot growth, increase tillering/shoot density, and encourage a finer leaf texture, and ultimately improve playing surface conditions. Mowing below the height tolerated by a species will increase leaf succulence, decrease wear tolerance, reduce carbohydrate (food) reserves, and decrease root, stolon, and rhizome growth.

Mowing Frequency

Increasing the mowing frequency without lowering the mowing height is one immediate adjustment in a mowing program that can quickly improve turf and playing surface quality. Mowing more often so that less than 1/3rd the length of the leaves is removed will be less stressful to the turf than lowering the mowing height to achieve better playing surface quality. More frequent mowing results in less leaf tissue being removed in a single mowing and allows the turf to better adapt to the height of cut compared to a less frequent mowing program.

The proper minimum mowing frequency is determined by the 1/3rd rule, which refers to the concept that no more than 1/3rd of the height of the leaves (turf canopy) is cut in a single mowing. For example, a turf mowed at 2 inches should be no more than 3 inches high when it is mowed (1 inch is cut off the 3 inch high turf, 1/3rd). Turf should be mowed at 2.5 inches when the leaves are 3½ inches high. And when the turf reaches 4½ inches it should not be mowed no lower than a 3-inch height.

A lower mowing height requires more frequent mowing because shoot growth of the turf plants is stimulated as the mowing height is lowered. Thus, more frequent mowing is needed to keep up with the greater shoot growth and avoid scalping of the turf. Some examples of minimum mowing frequencies include mowing three to four times per week at 1½ inches or less, two times per week at 2 inches, and once a week at 3 inches. Infrequent mowing at low heights will scalp the turf and result in long term decline of turf and playing surface quality.

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Lip Service
Nicole Sherry*

Usually, when I am called to look at fields in our area I notice the same thing over and over again: huge lips. I am talking about lips you could step-off and break a neck. So what causes this problem? I believe it all depends on maintenance practices. The first problem entails too much material on the infield. After it rains and you notice a pool of water in spots on your infield skin, the first cure is to add more material, right? Wrong. Yes, add material to soak up extra water and dry out the puddle, but afterwards remove all that extra stuff you added. Have you ever been to a rainy ballgame and the grounds crew swept out the infield after inning after inning with drying agent to help the teams get through the game? Would you need to strip all of the grass and sod, and use an edger to even it out again. In extreme cases like the one mentioned above, you might have to use a sod cutter to rip out those lips, find a level grade, sod, and take out some of your infield material.

Lets face it, I know we all have different things going on in our lives; however, if we try to spend a couple of hours on the lips of our fields and our finished product is correct (level) the first time, it’s easy to maintain. Let’s give our players a field that is safe. There is nothing worse than someone trying to field a ball, and cannot focus because he or she is worried about tripping on the field and getting hurt. "I asked them to look at the lip and continuing all the way through to the backstop," I noted. I said, “See how it is raised almost two feet compared to the rest of the field? I believe it all depends on maintenance off the infield. Why? If we did not, those players would soon be playing on a beach. I went to visit one field last week and the lips on the field were two feet high and five feet wide. They thought they would need to strip all of the grass and add more root zone to get the grass even with the lips. I asked them to look at the field from a side view. “Look at your infield,” I said. “See how it is raised almost two feet compared to the rest of the field? Imagine a giant knife slicing through the point at which the existing grass meets the lip and continuing all the way through to the backstop.” I noted that it appeared as though loads of material just kept building-up so that it made almost a two-foot difference between the outfield grass and the infield skin.

The second problem for lips is wind. Wind will take hold of that top dressing and blow it everywhere. A lot of it ends up in the grass edge. Can you ever stop lips from forming? No. You can, however, help control them by putting in a little extra effort about once per week. After each home stand, I have my crew use street brooms sweeping brooms with really stiff bristles and broom from six to eight inches in the grass back towards the skin all the way around the field including inside edges, base paths, and the mound and plate grass edges. This will damage your grass a little bit. Try to make sure you only broom the same spot a couple times and move on. Also, if it’s a hot sunny day, your grass may yellow a little. Cloudy days are perfect. Once a month I sharpen all the grading rakes (iron rakes) and stand on the dirt. I place the rake in the grass edge about six inches back and rip through the bump in the grass pulling towards the dirt at an angle then go back over in a different direction and angle. It will rip the grass. Don’t worry, it will also loosen up all the compacted lip areas. When done, broom all of your edges again to clean them out and then you can roll the edges and use an edger to even it out again. In extreme cases like the one mentioned above, you might have to use a sod cutter to rip out those lips, find a level grade, sod, and take out some of your infield material.

Wrong. Yes, add material to soak up extra water in spots on your infield skin, the desired mowing height is 2 inches. If feasible, it is also helpful by a mowing at 2.5 inches and finally mowing at the next mowing should be at 3.5 inches followed by a mowing at 2.5 inches and finally mowing at the desired 2 inches. If feasible, it is also helpful to increase the mowing frequency during this time that the mowing height is being reduced.

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RUTGERS CORNER
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As spring temperatures become more favorable for growth, winter dormancy in turf begins to break and green-up develops as new shoots emerge. Rapid shoot growth and minimal environmental stresses at this time of year can allow turf managers to take a critical opportunity to increase the mowing frequency and cutting height along with no more than modest levels of nitrogen fertilization to develop a good root system.

Peak shoot growth will occur at air temperatures of 60 to 75 ºF during the spring and the roots and rhizomes are extending deeper into the soil profile. The carbohydrate supply in the plant is depleted rapidly during this period of peak growth, thus timely mowing is critical to avoid removing no more than 1/3rd of the leaf tissue, otherwise a further strain the carbohydrate supply of the turfgrass plants would result. Shoot growth and minimal environmental stresses at this time of year can allow turf managers to take a critical opportunity to increase the mowing frequency and cutting height along with no more than modest levels of nitrogen fertilization to develop a good root system. For example, it could mean decreasing the cutting height with each successive mowing. As spring temperatures become more favorable for growth, winter dormancy in turf begins to break and green-up develops as new shoots emerge. Rapid shoot growth and minimal environmental stresses at this time of year can allow turf managers to take a critical opportunity to increase the mowing frequency and cutting height along with no more than modest levels of nitrogen fertilization to develop a good root system.

An unfortunate scenario that can occur in the spring involves wet (rainy) weather that interrupts the mowing schedule. Shoot growth becomes excessive and it is difficult to maintain the turf at the desired height. Under these circumstances, it is best to return to desired mowing height in a series of mowings, decreasing the cutting height with each successive mowing. For example, it could mean decreasing the cutting height with each successive mowing. As spring temperatures become more favorable for growth, winter dormancy in turf begins to break and green-up develops as new shoots emerge. Rapid shoot growth and minimal environmental stresses at this time of year can allow turf managers to take a critical opportunity to increase the mowing frequency and cutting height along with no more than modest levels of nitrogen fertilization to develop a good root system.