Cutting Height and Cultural Intensity

BY KARL DANNEBERGER

Cutting height is the most important factor in determining the turfgrass community's cultural intensity, which increases as the height of cut is lowered within the adaptive range of the given turfgrass species.

Although cultural inputs increase at lower heights, this may or may not influence the input amount — but it will most likely influence the frequency of input.

The increased cultural intensity occurs because of a change in the turfgrass community and the plant itself. As the cutting height is lowered, the turfgrass community becomes denser. The impact of lowering the height to increase density is most apparent on a perennial ryegrass and/or Kentucky bluegrass fairway.

If the fairway mowing height is lowered from above a 1-inch height of cut to below a 1-inch height of cut, how a golf ball lays on that turf is greatly affected.

At heights above 1 inch, the golf ball tends to settle into the turf canopy. But the turf is not dense enough to support the golf ball completely above the canopy. At heights below an inch, the golf ball sits up because of the increase in the number of shoots supporting the ball.

The downside to the greater number of shoots or increased density (crowding) is that each individual plant becomes smaller with thinner leaves and less root mass — basically, the plant is more juvenile. These plants become more susceptible to environmental, pest and management stresses than their brethren at higher heights of cut.

For example, as the height of cut decreases, the likelihood of disease severity increases. In response, the amount and frequency of fungicide applications increase in response to the increased pest severity.

Regarding nutrients, the total amount may be similar at both a higher and lower height of cut but the frequency will be higher at the lower cut.

Also, all cultural practices — irrigation, fertilization, pest control and mechanical management — increase in intensity.

MOWER OPERATION IS CRITICAL IN REGARD TO SHORTLY CUT TURFGRASS HEALTH

Mechanically, as cutting heights are lowered, proper mower selection and adjustment becomes increasingly critical. If you've tried to reduce your carbon footprint by using a push reel mower to mow your lawn or your course's putting green, you know the importance of an adjusted and sharp reel.

With hydraulic-driven units, the importance of a sharp reel may not be as noticeable to us, but it is to the plant. Ripping, pinching or shredding a leaf blade on a continual basis is not good for the turf's overall health. As the height of cut is lowered, mowing frequency increases, as does the frequency of reel and bed-knife sharpening.

Mowing is the most prevalent practice in putting-green management because it's done on a daily basis. Hence, mower operation is critical in regard to shortly cut turf health.

Wear caused by turning, sliding or speeding around curves and turns on green and collars contributes to chronic turf loss. Such turf loss is magnified at lower heights because the plants previously mentioned are more juvenile in nature and more susceptible to traffic.

For many, increasing heights of cut, especially on putting greens, may not be an option. But for those who can raise the height of cut to a more optimum height, the cost of maintaining that turfgrass is likely to decrease.

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