



*Overwatering is not helping the turf quality but will make the green hold the shot.*

## THE GOLF COURSE SUPERINTENDENT

# The Man Who Maintains Turfgrass Standards

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**S**INCE 1894, the USGA has been concerned with preserving the integrity of golf; the Rules, amateur status, implements and ball, handicapping, and conducting 10 national championships. In addition, the USGA is also very much involved in contributing to golf course maintenance standards and providing quality playing surfaces for the game. The Green Section agronomists work closely with golf course superintendents to provide service and assistance with course maintenance operations. However, the superintendent is the one person in the day-to-day operation of the golf course who can realistically maintain standards that place demands on the golfers that can make the game of golf such a great game.

The superintendent can exert a tremendous amount of influence on the game strictly by his philosophy of golf course maintenance. If he is sincerely interested in maintaining a playing surface for the game itself, inherently, the members at the club will accept the conditions and become relatively proficient at the game. However, if the superintendent is of the philosophy that "green is good — dark green is great," and that every inch of the golf course has to be a soft, lush turf, the membership will also adopt this philosophy. In all the comments heard at these courses about how great the golf course *looks*, you seldom hear any mention of playing conditions. Because of the potential influence on the game that the super-



intendent exerts, whether it be intentional or unintentional, he should have extensive knowledge of the game. He need not be an expert, but he should have a knowledge of the Rules of Golf, what is required to play a good shot (whether he is an accomplished golfer or not) and what the golf course is supposed to represent. If it is to be a good golf course, its playing surface should place certain demands on the golfer. It must require the player to execute shots with accuracy and finesse; possess a steady hand on the putting surfaces; and require the golfer to think about the play of the course, not just see how far he can hit the ball.

The past 20 years have provided a tremendous amount of technological advances in golf course maintenance. However, it seems that in the past 10 to 15 years the overall quality of playing surfaces has sometimes been diminished by the misuse of some of these advances. There are probably fewer than several hundred golf courses in the country today that provide a truly fine playing surface day to day. Too many clubs have become victims of the advances made by the irrigation industry. Too many clubs have fallen into dependence on the use of too many chemicals. Although the chemicals are used according to label recommendations, when they are used in combination or at the same time they actually have a detrimental affect on the quality of the playing surface. It appears that golf course maintenance is going the route of the great American philosophy that if a large number of people cannot meet current standards without having to work or practice, then the standards should be lowered.

It appears that, although we are more sophisticated in the maintenance of the golf course today, fairways are becoming wider and are being mowed higher (so that they are prettier); the roughs are becoming shorter (because of the very weak excuse that the ball is easier to find and, therefore, will help speed play) and that the greens are becoming softer (because it is no longer the responsibility of the golfer to execute the shot properly with a proper amount of spin so that the ball will hold the green). It is now almost a requirement that the green should hold the ball on its impact alone!

Strangely enough, despite all the advancements in new, stronger turf providing year 'round playing surfaces, and, with more and more money being spent on golf course maintenance, some golfers believe they must still have the right to improve their lie before every fairway shot. This is the same golfer who expects the greens to be soft. If the ball is teed high, there is a tendency to pick the ball and not put backspin on it. When it hits the green, it will bounce and roll farther than if it had spin. But our golfer believes he has hit a perfect shot, and the green did not hold the ball!

Technological advances and superintendents must not bear the full brunt of the decline of overall quality of playing surfaces. Club members have brought a tremendous amount of pressure on the superintendent to make the course easier. Some







*Practice putting green at Merion Golf Club. A high standard of maintenance is responsible for a quality playing surface.*



*(Above) Herbicide control is essential until the bermuda becomes established. Pre-emergence crabgrass control at this time could result in damage to the permanent grasses.*

*(Left) Water control will yield a strong root system as well as a better playing surface.*

believe this is justified because of increased play and time factor involved in playing a round of golf. Therefore, in the interest of self-preservation, the golf course maintenance program has frequently been altered to make the members happy and, hopefully, keep his job.

The manicured approach to golf course maintenance is causing a number of severe problems in turfgrass management. We are no longer conditioning grasses to withstand stress; rather we are forcing them into an unusual growth pattern which makes them more susceptible to stress from weather, traffic and wear and tear. When our maintenance programs reach a point where we are forcing grass growth, we artificially create more problems than we would have under natural conditions.

The maintenance of the cool season grasses, especially on putting greens, is severely affected

by autumn and spring maintenance programs. We constantly hear of programs being altered because XYZ groups are coming in to play, or that the 10th mixed fourball of the year is scheduled. Because of ever increasing traffic on our courses, it is necessary to follow proper maintenance schedules. It is essential that certain operations be performed to prepare the golf course for its peak and heavy play months. Some of the most important operations are the most basic and time-consuming ones:

**1) Aeration** — By either removing the cores or a spiking procedure, aeration is basic to good turf-grass management. The grass plant needs air in the soil to provide for strong growth. Without mechanically renovating the surface, it is absolutely impossible to maintain a good soil-air supply. Compaction from cart traffic, mowing equipment, and foot traffic has a tremendous affect on the soil. This applies not only to greens and tees, but fairways as well.

**2) Vertical Mowing** — Vertical mowing has a tremendous benefit for grasses and golf in removing the dead and decaying organic material that accumulates as a thatch layer on the soil surface. By a regularly scheduled vertical mowing operation, control of this thatch layer will be achieved mechanically and will prevent the grasses from becoming puffy or spongy. Whether in the fairways or on the greens, grasses that become puffy are most difficult to maintain as quality playing surfaces.

**3) A Regularly Scheduled Top-dressing Program** — This will encourage the grass to develop a strong, upright growth. The top-dressing of greens is of tremendous assistance in providing a smooth surface so that the ball, when properly struck, will roll with a good pace along its intended line. Top-dressing operations on tees are beneficial as well to smooth the surface and fill the divot scars. With few exceptions, it is not practical to top-dress fairway areas.

By following these three basic programs, turf for golf will be tremendously benefitted.

The overuse of chemicals, such as fertilizers and herbicides, soften grass growth and weaken its performance in stress periods. The philosophy that "it has to be green to be good" has caused heavier applications of fertilizers to be made earlier in the spring. By stimulating the grasses at an early date and trying to get mid-summer color by the end of April, serious problems could develop during the summer. An application of fertilizer in the early part of the spring causes the grass blade to become wide and the growth soft. This makes it more susceptible to traffic injury, it will require more water and it becomes more susceptible to diseases. By controlling nitrogen in the spring and waiting for normal initial greenup, the plant can maintain a thin upright posture and be able to condition itself to the stresses of the coming months.

Putting surfaces are the one place on the golf course where absolute control over the growth

rate of the grass is necessary. Ideally, on a bent-grass putting surface the grasses will only be growing fast enough to recover from the traffic injury that is received from day-to-day play. It is not a contest on the putting surface to see how fast you can get the grass growing, but how fast you can get the ball rolling. It is most difficult to maintain a quality putting surface when the grasses have a rapid and soft growth rate.

As a result of overstimulation of turfgrasses in the spring, it becomes necessary to apply water on a more frequent basis. The growth rate demands it. Once we start applying too much water, soil compaction is increased. Air spaces in the soil are greatly reduced. This starts a vicious cycle of having to apply more and more water to keep the grasses growing in order to survive the stress they are being placed under.

Once the soil is saturated, disease susceptibility increases, especially to pythium. Because the pythium fungus needs warm weather and moisture to be active, we are artificially creating a condition that provides excellent growing conditions for it. Frequently, if the areas are kept drier, grasses could survive and the natural climatic conditions would not exist long enough for pythium to have a detrimental effect on them.

Overwatering also provides an excellent climate for the growth and development of crabgrass. Crabgrass moves into an area when overall turf-grass conditions become weak. We then start using a tremendous amount of herbicide to control crabgrass. Of course, the use of these herbicides is not compatible with the basic aeration procedures mentioned earlier. Once the herbicide is used, aeration should not take place because it will reduce the effectiveness of the pre-emergence material. Therefore, the overall desirable turfgrass population decreases and crabgrass or *Poa annua* moves in.

It is not hard to see how golf courses can find themselves in a program of lowered standards. The vicious cycle begins with the misuse of turf management techniques. Mismanaged techniques will cause more problems than are normally caused naturally.

Not only have cool season grasses had problems because of overmanagement. Bermudagrasses have run into essentially the same problems when pre-emergence crabgrass controls have been applied before the seedling bermudagrass is fully established. Bermudagrasses have been forced into overstimulation too late in the fall in order to keep the fairways green. They go into winter in a soft condition without hardening off and are, therefore, more susceptible to winter injury. Further, they are often mechanically injured when fairway overseeding is accomplished too late in the year.

As we look ahead, let us hope that golf course maintenance programs will be directed more toward quality playing surfaces than toward aesthetics. This will call for a greater understanding and appreciation of golf on the part of most club members and the golf course superintendent.