Golfer etiquette and course responsibility are more important than ever before as the game's popularity grows.

Golfers' Role in Maintenance

Golfers' actions impact the golf course and maintenance operations more than they realize.

by JIM SKORULSKI

IT IS A CRISP, clear Saturday morning in October. The sun is just beginning to rise as you step into a hot shower and prepare for the 8:00 A.M. shotgun start of the Fall Classic breakfast tournament. A quick bite, a cup of coffee, a peak at the sports page, and you're off, full of anticipation for a great morning on a pristine golf course with friends. Ah, but there is trouble in the air when you arrive at the golf course. A sign reading "FROST DELAY" is posted on the message board. Tension fills the air as more and more golfers gather only to realize that the tournament is delayed indefinitely until the frost lifts. You hear the complaints: "There he goes again . . . . Is this place ever open? . . . How much damage can a few golfers create? . . . Last weekend it was too wet for golf carts, today a frost delay . . . . What's next? Close the greens for winter?"

Is this scene familiar? Maybe the scenario is different, but time and time again golfers question the judgement of the golf course superintendent, especially when a decision or activity directly affects their ability to play the golf course. Is the superintendent dutifully protecting the golf course, or is he overreacting to a condition that's really not so important? As a golfer, do you realize the implications of your attitudes, demands, and actions on golf course conditioning and operations, and that you, too, are responsible for the appearance and playability of the golf course? Let's take a closer look.

Expectations

There are few weekends when a beautifully maintained golf course cannot be seen on television. It is only natural to want to emulate those conditions at your home course. The largest misconception many golfers have is that the near-perfect conditions observed on television can be provided on an everyday basis. The fact is, maintenance programs are planned far in advance to peak a golf course for a special event. Major championships can require years of preparation work, a very large staff, and countless volunteers to produce the near-perfect conditions. Trying to produce those conditions every day is simply too cost prohibitive for most golf courses and usually leads to turf loss.

Green Speed

Many golfers have unrealistic expectations or make unfair comparisons regarding green speed. An arbitrary green speed is demanded without first considering important factors such as the design of the greens, their agronomic condition, the level and quality

of play, and the size of the operating budget. Elevating green speed temporarily for a special event is also very different from elevating green speed for everyday play. Sadly, turf loss, golfer dissatisfaction, and the demise of superintendents' careers have occurred because too much pressure was applied to increase green speed to unrealistic levels without first considering all the potential implications of that request. Use reason, not passion, when determining what green speed is best for the golf course, and understand that green speed alone does not make a good green.

Uniformity/Consistency

Demands for uniformly green, blemish-free playing surfaces throughout the golf course also are becoming more common. Superintendents are forced to use additional water, fertilizer, and pesticides to meet these demands. Even in cooler, temperate regions, golf courses often add irrigation to out-of-play areas solely for aesthetic reasons. Fertility and irrigation programs at some golf courses also are dictated less by the plant's needs and more by demands for color or a green's ability to hold a golf shot. Those programs usually result in excessive fertilizer and water applications that create a weak, shallow-rooted turfgrass that is even more dependent on water and pesticide inputs for survival. Actual playing conditions also will suffer from the softer surface and more lush growth. Many golf courses have the financial capabilities to provide wall-to-wall green, blemish-free turf, and a small fortune is required to do so. The issue of cost may not be a concern at those golf courses. However, the increase in water, fertilizer, and pesticide use should be.

There is a genuine desire with most golf course superintendents to reduce fertilizer, water, and pesticide inputs in golf course management programs. Achieving this goal will not be possible until golfers can accept and adapt to even small irregularities or imperfections in the playing surface. Golf is different from other sports in that its playing field is a dynamic living system that has a major impact on how the game is played. Golfers who learn to identify, accept, and adjust to the natural changes, as opposed to insisting they be eliminated entirely, will develop more realistic expectations, become more proficient players, and may even find the golf experience more enjoyable.

Maintenance

Maintenance staffs are busier than ever, trying to satisfy the growing expectations and meet the demands from increased play. Larger staffs and creative scheduling are used to accomplish maintenance objectives with as little interference to play as possible. Golfers should anticipate some degree of interference when elevated levels of conditioning are expected. Pressures to open golf courses earlier in the morning and to keep golf courses open every day make it difficult to complete daily tasks, especially the more disruptive practices such as topdressing, cultivation, and spray applications. Closing the golf course for one day or at least one morning per week, implementing later starting times, and allowing for some flexibility in operations are small sacrifices that allow the staff to complete their daily tasks and more disruptive practices more efficiently and when they are most required. Be patient and pleasant with the staff in the field. Your cooperation allows them to safely complete their work and provide the conditions you demand.

Traffic

Golf courses are busier today than ever before. The increase in traffic has had the most pronounced effect on older golf courses that were not designed with today's play or level of conditioning in mind. Traffic effects are most evident as worn, thin, discolored turf, or heavily divoted, bare areas. The most common traffic injury involves abrading or bruising the leaf and stem tissues. A healthy turfgrass plant can recover remarkably well from simple leaf damage if weather conditions permit active growth. Heavy traffic or traffic during inclement weather can lead to more significant wear injury that extends into the lower stem or crown region of the plant. Recovery from the more severe damage is slow or may not be possible. Traffic can also damage the structure of underlying soils, affecting their drainage and aeration characteristics.

Foot Traffic

The move from traditional metal to nonmetal spikes has helped reduce the injurious effects of foot traffic. The improvement in surface quality on greens is obvious to most golfers. What may be less obvious, but equally important, is the improved turf vigor resulting from a reduction in wear injury. The added vigor improves the turfgrass plants' ability to tolerate all types of stress and resist disease infection.

Beware that not all nonmetal spikes are created equal. Some nonmetal spikes and shoe patterns are more damaging than others. It is conceivable that as the spikeless shoe patterns become more pronounced, they could

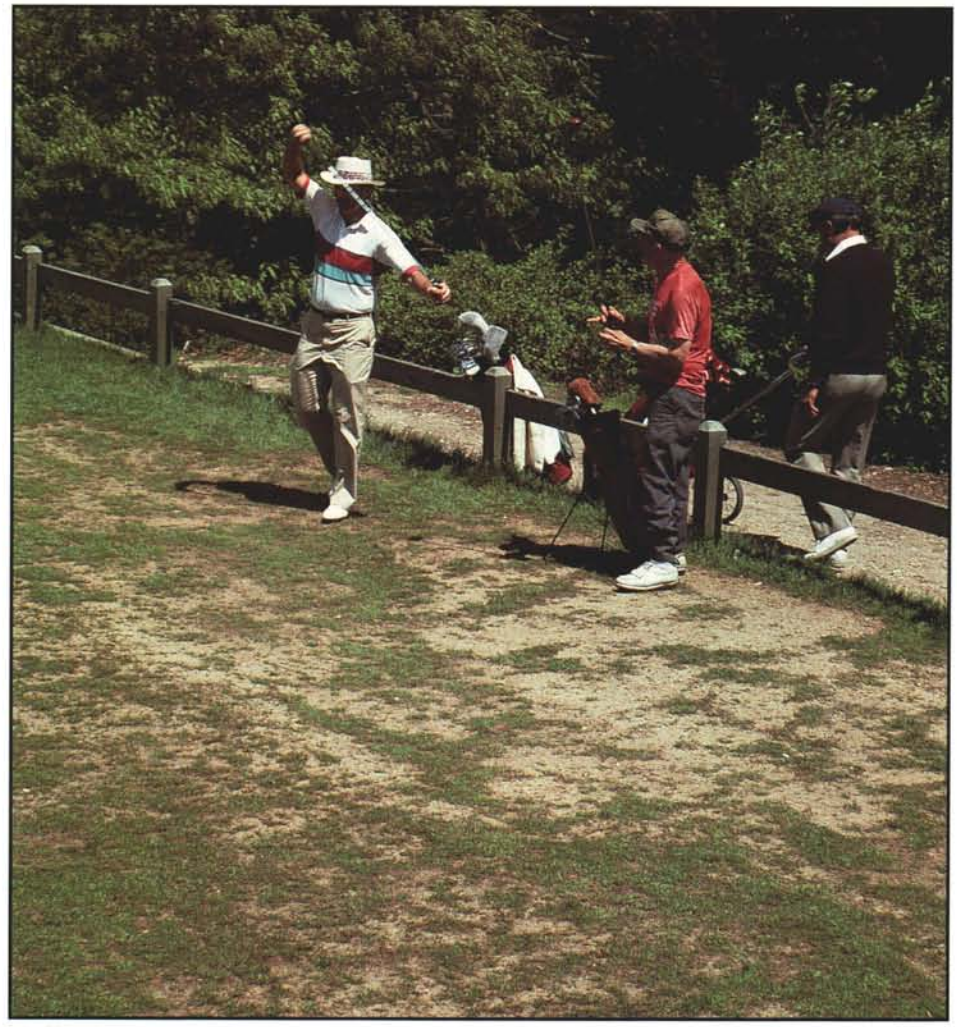
Foot traffic from unknowing golfers can be very damaging to steep bunker banks. Avoid steep bank faces when entering or exiting bunkers.

become just as damaging as traditional metal spikes. Universities around the country are field-testing the new shoe patterns to determine which provide adequate traction and create the least amount of turfgrass injury. Spikeless shoes will not prevent the surface disruption and wear injury that occurs when golfers drag or twist their feet while walking or addressing the ball. Be aware of your actions, especially on the putting surface, and make a conscious effort not to drag or twist your feet. It is true that more caution is needed when wearing spikeless shoes on hillsides and other potentially slippery surfaces, but a move to nonmetal spikes may be the single most beneficial act golfers can do to improve the golf course.

Foot traffic also can be very damaging to recently seeded areas or unstable sod. Young seedling plants are most vulnerable to traffic. There are few things more disheartening to a golf course superintendent than to see footprints tracking across a recently graded and seeded area, especially when the area is clearly marked with signs and ropes. When possible, avoid any areas where seed or sod has been used to establish new turf.

Human nature is such that we seek the shortest, or most economical, path between two points. The consequence of utilizing the same route repeatedly is a worn path. Often these paths are evident adjacent to sand bunkers in a green complex. Superintendents use ropes and signs to deter traffic in such areas. A design modification may ultimately be required to address the traffic problem. However, common sense should suggest that the ropes and signs are there for good reason, so be responsible and accept the small inconvenience to take an alternate route that will be less damaging to the turf.

Turfgrass on sand bunker banks also is vulnerable to foot traffic. The steep banks are often fragile and quickly break down from traffic pressure. Damaged bunker banks are unsightly and lead to washouts that contaminate the sand. Repairing the damage is costly and would not be necessary if golfers would avoid the steepest banks and faces when entering or exiting sand bunkers.



Golfers twisting and turning their feet and making multiple practice swings create significant wear injury and divot damage on the first tee. Complete your stretching and warm-up swings off the tee box and try to avoid creating a divot when taking practice swings.

Winter Play/Frost

Winter play is often a contentious issue between superintendents and golfers in northern areas where there is intermittent snow cover and the turf is dormant. The superintendent's desire to protect the course during periods when the turf is not actively growing conflicts with the pressures to keep the golf course open for play. Winter play causes wear injury, compacts and displaces the soil, and damages the playing surface. Wear injury is more severe because of the dormant turf's frozen condition and inability to recover. The traffic effects are not always immediately noticeable, making it harder to convince golfers of the potential for damage. Even a small number of winter golfers can create significant and long-lasting damage, depending on the soil and weather conditions.

Traffic on frosted turf results in immediate injury. Cells in the frozen leaf blade and stems are brittle and are easily ruptured by the pressures exerted from the traffic. Damaged turf initially has a water-soaked appearance and then turns a straw color. Wear injury on frozen, dormant turf may be less acute. Turfgrass can recover relatively quickly from foliar damage alone, once warmer weather returns. However, longer-lasting or permanent damage can be expected when the traffic injures the crown or basal stem region where the plant's regenerative tissues are located. The greatest potential for damage to the crown area occurs during periods of thaw, when soft or saturated surface soils overlay frozen soils. Expect winter traffic to thin the turf canopy in areas where traffic is concentrated or play is very heavy. The damage can remain noticeable well into spring and early summer. The damaged plants will be weaker and more susceptible to disease infection, and the thinned areas more vulnerable to weed encroachment.

Soils also can be impacted severely by winter traffic. Frozen soils are rigid and are damaged the least. Wet or saturated surface soils are most prone to damage from compaction and dis-

Golf carts have the potential to create significant surface damage, especially in wet areas on the golf course. Obey all cart operation rules and respect the signs and ropes that are put in place to protect the golf course and your safety.

placement effects. Compaction involves pressing the soil particles together to create a more dense material with less total pore space. Water movement through the soil is impacted and the surface becomes hard. Compacted soils remain cooler in the spring (delaying growth) and retain more heat in summer. The changes in soil properties have a negative influence on root growth that can affect turf's performance through the entire summer season. Surface smoothness also is sacrificed as a result of the displacement effects.

Utilizing temporary greens and tees for winter golf in northern regions remains the best strategy for preventing traffic damage and the costly and disruptive work required to repair the damage. Respect golf course superintendents' opinions and decisions regarding frost, winter play, and the use of temporary greens. Their knowledge and experience are invaluable for making decisions based on what is best for the golf course and the long-term interests of golfers.

Golf Carts

Golf carts, along with television, may be responsible for the game's huge growth in recent years. The popularity of carts among today's golfers cannot be denied. Golf carts are a significant revenue source, yet at the same time can be responsible for a large share of maintenance expenses. Cart traffic effects are minimal at new golf courses that are designed with extensive path systems, but path design obviously was not a consideration at older golf courses. Expenses associated with cart use on those courses are usually higher because carts are forced to travel more extensively over the playing surfaces. Areas where carts converge, such as the entry and exit points adjacent to cart paths, suffer the most obvious damage, but less conspicuous effects will occur wherever carts are operated over turf areas. Golf carts and pull carts exert several forces on the turf and soil. A vertical force created by the dynamic load of the wheel, sheer stress created by wheel slippage, and forces from vibration all impact the turf and surface soils.

Operating carts with care and common sense will reduce traffic injury. Avoid rapid starts and stops or sharp turns that increase wheel slippage and subsequent damage to the turf and soil. Respect the cart operation rules and obey the signs and ropes set to guide the flow of traffic. The rules have been developed to minimize traffic effects and protect the operator from potentially serious injury. Golf carts or pull carts should never be operated in critical play turf areas immediately adjacent to the greens. All carts should be kept on designated paths. Avoid the tendency to park the cart partially off the path. This leads to significant wear injury and sod damage adjacent to the paths. Golf carts should not be operated in naturalized, tall-grass areas where the traffic can be especially damaging to the native vegetation and ruin the appearance of these areas.

Avoid operating golf carts and pull carts through known wet areas or standing water. Saturated soils are more easily compacted and displaced. Do not operate carts where frost is evident. Avoid turfgrass areas that are suffering from water stress. Anticipate water stress on hot, dry afternoons between the hours of 12:00 P.M. and 4:00 P.M. Turf suffering water stress will take on a wilted or flaccid, grayish-blue appearance. The limp cells are highly susceptible to wear damage, much like a tire when it is flat. The heavy weight of a cart is likely to cause more permanent injury under such conditions.

Divot and Ball Mark Injury

There are many who feel that the rules and etiquette of golf have been overlooked as the game has experienced tremendous growth. Issues of etiquette, such as the care of the course, are probably not the biggest concern to a golfer tackling the game's challenges for the first time. Many junior golf programs stress etiquette issues to young players. Regional golf associations and some golf courses also provide workshops or seminars to teach similar issues to new or interested golfers. The USGA has recently produced an instructional video on etiquette issues titled *The Spirit of the Game* that is free to USGA members and is also being distributed to regional

During the growing season, severe and long-lasting wear injury occurs when carts are operated over a turf suffering moisture stress.

golf associations, the PGA, and the GCSAA for use in the field. Sadly, etiquette and course responsibility seem to be lacking in many more experienced golfers, who should know better. All golfers are expected to repair their divots, ball marks, and any other surface damage created while playing the game. Divots, ball marks, and other damage that are not repaired leave unsightly depressions and scars that negatively influence future play and provide opportunities for weeds to become established.

Golfers are encouraged to repair their divots on tees and fairways with sand or sand/seed mixes provided to them. The sand or seed mix should be placed in the divot, tamped down, and leveled even with the surrounding grade. Applying excessive divot mix creates an uneven surface and disrupts mowing operations. It also is important to replace grass divots if a sand mix is not provided. Replacing and tamping the divot in place may not ensure the turf's survival, but it will level the surface at least until a more permanent repair can be completed. Divots should not be made when taking practice swings!

Ball marks also need to be repaired promptly and properly to avoid long-lasting scars. Repairing a ball mark incorrectly or carelessly may be as damaging as not repairing the ball mark at all. There are excellent pictorial guides that illustrate the proper repair methods. The golf course superintendent or golf professional also is willing and able to demonstrate the proper procedures. Make a conscientious effort to repair your ball mark and encourage other golfers to do the same.

Golfers do have a major impact on golf course maintenance operations. The impact does not have to be negative as long as expectations are realistic and based on reason, and golfers understand and fulfill the responsibilities expected of them. Informed and conscientious golfers are an asset to any maintenance program. Become more familiar with the effects of your actions and do your share to preserve the golf course and all that is special about this game. Your cooperation ultimately will result in improved playing conditions and reduced maintenance costs for all.

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The tendency to pull golf carts off to the side of cart paths creates wear injury and soil compaction that damages the turfgrass. Golf carts should be parked on the path. If others approach, they can pull off the path to go around.