

PATHS ON THE GOLF COURSE

Natural or artificial?

A course manager's dilemma

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Traffic routes within golf courses such as approaches to greens, the walk (on surround) to the next tee and from tee to fairway are often narrow, controlled by artificial features such as bunkers and mounds and it is invariably these areas where the turf cover is readily destroyed by constant foot traffic. In many instances, a permanent pathway may be necessary but just before you start digging, let's consider some options that may allow for the satisfactory maintenance of a grassed pathway.

Architecture

During construction, but more specifically the design stage, it should be possible to take proper account of surface featurings and anticipated golf traffic to minimise wear damage. Unfortunately, many of our older courses were built during an era in which natural features were used to full advantage and many green sites in particular are not easily accessible. During any potential remodelling work the opportunity should be taken to not only improve upon the design but also to remove redundant bunkers/mounds and ease slopes where possible to provide greater flexibility for both golfer and machinery access and use. The reduction in the severity of greenside mounding can help to improve the strength of the sward through the combined effects of reducing stress on the sward as well as abrasion under foot traffic.

Alternative summer and winter tees are of significant advantage to the redirection of traffic, particularly in instances in which the tees are situated on opposite sides of the green, allowing for a complete redirection of traffic, rest and recovery. The idea is simple, providing much needed extra teeing space as well as altering traffic patterns both near the green and on carries which can be pretty fragile on links courses. There may even be scope to bring alternative landing zones into play, therefore providing a greater distribution of wear over the fairway too.

Traffic Direction

Some form of winter traffic control and direction is the norm at most clubs today. The objectives of the exercise are to utilise areas of the course not used during the summer period without making the course arduous and in the process provide an opportunity for rest and recovery. Ropes, hoops, white line markings and appropriate signage all have their uses but what works best at one club may have limited impact at another. White lines are undoubtedly the most versatile and, in my experience, the most successful—they can be readily moved and cause no interference to maintenance.

The key to a successful winter policy is to start early before the main traffic routes start to deteriorate and over the winter period move the lines on a regular basis, i.e. with sufficient frequency to avoid tracks developing right at the edge of the lines. Like sheep, there is often a tendency for traffic to hug the edge of the rope or line. Only resort to summer rules when satisfied that growth is adequate and weather conditions have improved to prevent any further deterioration.

Maintaining Grass

Constant foot traffic over the same narrow routes used by golfers compacts the underlying soil, seals the top, reduces the air content of the underlying rootzone and physically wears away the grass leaves and underlying mat of plant tissue. There are surely strong arguments for banning golf trolleys on many golf courses over the winter months as these simply compound the problem further since they are confined to the shortest and easiest routes between two given points. The battery-powered units often loaded down with a full set of clubs are heavier and have a tendency to skid and cause a greater degree of abrasion on wet or sloping terrain, adding further to the problems of maintaining a grass cover.

The first and essential operation must be to ensure that adequate aeration is carried out to combat the compacting effects of traffic. This must be completed as early as possible in the autumn to improve root activity and encourage better drainage. Careful top dressing with a sandy material, indeed a suitable sand, at this time may better help to maintain the continuity of the aeration channels and assist drainage. Depending upon the severity of the traffic, this should be supplemented with some further deep spiking with the Verti-drain or similar. Encouraging better moisture penetration at this time may also assist the recovery process following a dry summer. You could then consider applying a granular wetting agent early in the spring down some surface tine holes to maintain sufficient moisture in the profile through the early part of the season. On links courses it is not uncommon to install irrigation specifically to pathways to allow careful watering during dry summer conditions as well as manipulating growing conditions to assist recovery if necessary.

A little mild feeding in the spring or autumn may help improve the resilience of the sward to traffic but beware, too much and the surface will wear all the more quickly. A great array of fertilisers are available that offer nutrient-release characteristics over several months which are considered ideal for pathways.

Areas of damage are probably best turfed with mature, hard-wearing material established in a free-draining soil. Seeding is rarely successful unless traffic can be kept off the areas until the seed has become fully established. Imported turf may be an option but additional maintenance is required to mature the material on site and improve its resilience to traffic.

Perhaps one of the most significant innovations to enter the sports turf market is the Crown III rubber crumb top dressing available from Tebbutt Associates which, when worked into the base of the sward, is purported to help protect the crowns, rhizomes and stolons of the grasses from wear, therefore helping to retain the sward cover for longer on areas of high traffic. Certainly, it has been used successfully on a significant number of courses and to date there appear to be no deleterious effects. It has questionable value on bare ground and is subsequently used in a preventative situation within a full sward cover.

Advances in grass breeding have significantly improved the quality of the ryegrass cultivars with a general drive towards much finer leaved varieties that are less at odds with the texture of the finer bent and fescue grasses. On links courses it is now possible to consider blends containing ryegrasses for pathways that in the past would have been unthinkable. Smooth-stalked meadow-grasses are also worthy of consideration, particularly for their wear tolerance but, more importantly, their recuperative capacity once established.

Given the current interest in alternatives to metal spikes, it would be worth assessing the potential damaging effects of each of these shoe-type designs to grass pathways on the golf course.

Hybrid Systems

The use of rubber crumb top dressings hopefully allows for the retention of a grass cover and ultimately playability in certain instances. Alternative systems are available which are designed to spread the compacting effects of traffic over a greater surface area, thus reducing the direct load on the underlying growing medium. One such system comprises

interlocking tile systems, e.g. Golpla, Ritter or similar, which support a growing medium and allow for the downward movement of moisture. The grass cover is established by either seeding or rolling turf into the individual elements. Once in place, subsequent aeration practices are either non-existent or limited but the systems can prove to be so successful that further aeration work is unnecessary. It is not possible to play off these surfaces due to the danger of grounding a club on the tiles.

Permanent Pathways

In situations in which the above options are clearly failing to provide satisfactory conditions, some form of permanent pathway may be necessary. These will commonly be required alongside tees but preferably sited to provide as wide as possible access at either end.

Paths should be at least 1.2 metres wide to take two pedestrians (with trolleys) side by side. The route should be as direct as possible but try and avoid very long straight lines as these have the potential to jar upon the eye.

A sound construction will provide not only a well-drained path but one that will allow you to get the best out of the construction materials. The basic shape should be cut to a depth of say 150 mm. A neat, firm mowing edge should be provided, preferably with boards pegged on a firm foundation. The top edge of the boards should finish flush with the adjacent soil level for ease of maintenance. Materials can be more easily retained on a path that is lower than the adjacent turf. The path should either be cambered or finished with a slight crossfall to allow for the shedding of water. The base should comprise crusher-run material, 50 mm down or hard core to a minimum 100 mm firmed depth. Supplementary drainage may be required, say, along the lower edge but more important is the need to minimise water impacting upon the path, particularly at its highest point and here a catchwater drain may be a valuable addition. Running water is responsible for most of the erosion problems on paths which can often be overcome with sufficient cross drainage channels to check the downward flow of water. A porous surfacing material can also help in this respect.

Suitable surfacing materials depend largely upon local availability but the requirements are for materials that will drain adequately but bind sufficiently to provide stability when walking over. If used near the putting surfaces, the material used should not be too noisy when walked upon. The materials should also blend naturally with the surrounding environment, e.g. wood chips look better on woodland courses and crushed shells are better on links courses.

Synthetic grass can visually improve key traffic areas of the site such as around the 1st tee and from the 18th green and, in these areas, provide a more suitable surface for traffic without the noise problems of other surfacing materials. Appropriate installation is essential if the durability of the surface is to be maintained.

Conclusions

Pathways and traffic control measures are an integral part of golf course maintenance in the 21st Century. Every effort should be made to maintain traffic on grass where possible, if this is not the case then pathways should merge naturally and unobtrusively into the golf course site.