

Breaking

Winter play on greens – a topic never to be brought up in polite conversation. But just what is the answer to this perennial problem? James T Snow, National Director, USGA Green Section, considers a few of the alternatives

It is common knowledge that three topics are simply too controversial and should never be brought up at social functions: politics, religion, and winter play on greens. Not familiar with the last? If not, then you apparently haven't spent much time at golf courses during late autumn and early winter.

Few subjects raise such an emotional response from greenkeepers and golfers alike. Golfers can become irate at actions restricting their access to regular greens during late autumn, winter and early spring, while greenkeepers are just as unyielding in their view that play should be kept off the greens at those times.

Who's right?

As with most topics of this nature, qualifications have to be tacked on to any firm answer. It is safe to say, however, that winter play can only harm the greens and in many instances it has a significant negative impact on the health and playability of the turf during the following golf season.

Repercussions of winter play

It is not hard to understand why many golfers are sometimes sceptical about claims concerning the negative effects of winter play, because to them the turf on greens that have been played throughout the winter usually appears the same as the turf on greens that have been closed. The effects of winter traffic, however, need not be obvious and dramatic to have significant and long-lasting repercussions.

Direct wear injury – Thinning of the turf due to direct wear injury is an obvious and important result of winter traffic. Unlike during the growing season, when the turf is able to regenerate new leaves and stems to replace injured tissue daily, winter weather completely halts turf growth; the grass is continually thinned throughout the winter in direct proportion to the amount of traffic. This thinning of the turf canopy can and often does encourage the establishment of such weeds as *Poa annua*, crabgrass, goosegrass, moss, algae, pearlwort, spurge and other weed pests during the spring and summer. True enough, weeds can indeed be a problem on greens that are not subjected to winter play, but winter traffic causes them to be just that much more abundant and difficult to control.

Soil compaction – Soil compaction is a more subtle and perhaps more important consequence of winter traffic. Because of the cold winter temperatures and the lack of active turf growth, the loss of excess soil moisture through evaporation and transpiration is greatly reduced. In addition, frozen sub-surface soils may completely block the movement of excess moisture through the soil profile. During the summer a very heavy rainfall often creates soil conditions that warrant closing the course for a day or two until the excess moisture is eliminated by way of evaporation, transpiration and downward percolation through the soil

Pictured right, top: an intelligent, well prepared temporary green is no punishment.

Below, left: the blotched effect of winter play shows up early...

...and is exacerbated the following spring! (Centre).

Picture lower right: poor drainage and air circulation. Likely cause? Heavy compaction through playing on wet or thawing greens.

profile. Because these moisture losses are often non-functional during the winter, saturated soil conditions can persist for weeks or longer. Yet the golfers who can appreciate the need to close the course during the summer are completely unsympathetic to the same conditions during the winter.

The effects of soil compaction on the health and playability of the turf are insidious at any time, but because wet soils are especially prone to compaction, the likelihood of traffic causing the collapse of good soil structure is of constant concern during the winter. As soil particles are compacted and pushed closer and closer together, the pore space that facilitates drainage and root growth during the summer is gradually lost. As the season finally commences golfers often complain that these compacted greens are hard. From an agronomic stand-point, turf begins the season in a weakened state predisposed to a host of summer problems. In addition to the potential for weed encroachment, the turf on greens played during winter tends to wilt more readily during hot weather and often is more susceptible to a wide array of primary and secondary disease organisms.

Effects on playability – With the loss of turf density from direct wear injury and the loss of turf vigour caused by soil compaction, greens played during winter tend to be hard, slow and bumpy, and they are slower to develop during the spring compared to greens that are not subjected to winter traffic. Footprinting is often a problem and golfers tend to complain about the lack of trueness even after several topdressings in the spring. Finally, the effects of compaction on the health of the turf can last to a certain extent for much of the season, making it difficult or impossible to keep greens as closely cut and intensively groomed as some golfers may desire.

Many winter golfers have heard these arguments before and have dismissed them as being the ravings of overprotective greenkeepers and turfgrass scientists. A favourite response is: "I pay plenty to play golf at this Club and I'm going to use the regular greens during the winter. That's why we pay the greenkeeper – to fix up the greens in time for spring. Besides, the Let-'Em-Play-Anytime course down the street lets them play through the winter and they don't lose any grass during the summer. Anyway, we only have a few groups that play much during the winter. How much damage can we do?"

Factors to consider

On the surface, these comments seem quite valid; after all, everything is a matter of degree. But many factors should be taken into account in developing a logical policy on winter play.

Anticipated traffic – If a single round were played on the course during the winter most would agree that the potential for serious damage would be nil. Same for ten rounds? How about 100, 500 or 1,000? If the weather is mild and there is little snow, how many more rounds will it add? Where do you draw the line?

Soil type – Winter golfers argue that sand-based greens drain well and don't compact, making them very suitable for winter play at any time. While it is true that sand-based greens don't suffer from compaction to the same extent that older soil-based greens might, it is also true that direct-wear injury is likely to be more severe on sand greens. Turf density can be greatly compromised and weed encroachment

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can be a real problem. Obviously, courses with older soil-based greens are especially vulnerable to both types of winter injury.

Specific weather conditions – Though traffic on dormant turf will indeed cause some injury, the weather and soil conditions at the time of play will dictate the type and extent of the damage. Traffic on dry, unfrozen soil will cause the least damage, but this condition is rare during the winter. Frozen soil can cause significant wear injury but little soil compaction. Play on wet, unfrozen soil can result in significant

soil compaction but less wear injury. Play on a thawing soil (wet on the surface, frozen below) can result in severe soil compaction and wear injury and should be avoided. Finally, frosted turf is extremely susceptible to direct injury and play should never be allowed.

Grass species – Do you have fine bent/fescue greens and want to keep them? Then don't allow winter play. Thinned turf and compacted soil is just what *Poa annua* is looking for in the spring.

Cultural maintenance programmes – Winter golfers argue

'Temporary greens can be est

that a good head greenkeeper should be able to fix any damage done during winter by aerifying, topdressing, overseeding, fertilising and irrigating during the early spring. If weed encroachment is a problem, then he should apply herbicides to kill the weeds and pre-emergent herbicides to prevent crabgrass and goosegrass from developing. However, a) it would be a rare case where intensive spring work would completely compensate for the wear injury and soil compaction resulting from winter play, b) chemicals applied to control crabgrass and other weeds have a negative effect on the root growth and the overall health of the turf during the summer, c) golfers despise the intensive aerification and topdressing required during the early spring, since most of them return after a winter lay-off and find their greens ripped up and in poor playing condition for weeks or more, and d) all of the work to renovate the greens takes more money for labour and materials and comes at the expense of other spring course preparation activities.

History of winter injury – The effects of winter play can exacerbate the injury from other types of winter problems, including desiccation, winter diseases and low-temperature kill (ice damage). Winter play should therefore be avoided if the course regularly suffers from other forms of winter injury.

Previous weed problems – Courses that have previously experienced and are concerned about weed problems such as crabgrass, spurge, moss, algae and *Poa annua* would do themselves a favour by avoiding winter play on the regular greens.

Recent stress problems – Winter play is best not allowed on greens that have experienced any turf loss or extreme weakness during the previous year or years caused by heat stress, secondary disease problems such as anthracnose or summer patch, nematodes or other summer stress problems. Greens like these probably would suffer even greater prob-

lems if they were burdened with the vigor-inhibiting effects of winter play.

Trees – Greens close to large trees that suffer from shade, air circulation or tree root competition problems should not be forced to endure the complicating effects of winter play. Compared to turf growing in clear areas, greens in locations like these usually respond very slowly in the spring and tend to be weak during the summer. Many greens on older, mature courses can be grouped in this category.

Standards for play – One of the most important questions to ask in contemplating whether or not to use regular greens in winter concerns what the golfers want from the greens during the regular season. If they want top-quality turf from spring to autumn, involving close, frequent cutting, double cutting, frequent verticutting, lean fertilisation, minimal irrigation or other stress-inducing practices, then it is best to avoid winter play. If the golfers don't mind higher cutting heights, slower speeds and greater inconsistency then winter golf was made for them. Some bias in that statement? Perhaps, but too many golfers want to trample their dormant greens in winter and then enjoy US Open conditions from April through November. There are still some things that money can't buy.

Some alternatives

Given that this article won't end the use of regular greens during winter on all courses, a look at some of the alternatives might prove useful in establishing a winter policy.

Use temporary greens. Many courses avoid winter injury by establishing temporary greens on the fairway approach to the existing greens. Often these areas are aerified and topdressed several times during the autumn and the cutting height is lowered to provide a reasonable putting surface for the winter. Sure, it's more fun to hit to regular greens but isn't it worth sacrificing a little bit during the winter to keep



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Established on existing fairways'

the greens in good condition for spring, summer and autumn? The best policy is to close the greens when growth ceases and open them in spring only when growth resumes and the soil has dried enough to resist compaction.

Design a winter course. This should be especially appealing to the addicts who simply can't get enough. Many Clubs play their course backwards, going from green to tee using the tee as a target or establishing a temporary green at the tee end of the fairway. Others use their imagination and design holes in a cross-country style, crossing roughs and water hazards that might rarely be seen or appreciated when golfers play the regular course. Temporary greens can be established on existing fairways or roughs, near fairway bunkers, water hazards or groupings of trees. The possibilities are limitless.

Establish temporary greens, but use them only when conditions are not appropriate for using the regular greens. This is a bad policy because conditions can go from fair to terrible in just a few hours. For example, greens that are frozen in the morning can thaw as temperatures rise during the day. If play is allowed on the regular greens in the morning, at what point should you switch to temporary greens? Who will decide? Will golfers already on the course be notified of the change? Obviously, the logistics of this policy are difficult and the likelihood of damage to greens is great.

Use regular greens during the winter but close the course on days when the potential for damage is great. This policy has the same flaws as the one previous. In some ways it's even worse, because the days when the greens should be closed, when temperatures rise above freezing and the putting surfaces become thawed, are the same days that most winter golfers want to be on the course. Greenkeepers can come under great pressure from Club officials to keep

the course open, despite their misgivings, and sometimes they are simply overruled.

Play the greens throughout the winter, regardless of conditions. Because the alternatives require difficult decisions and complicated logistics, many courses opt for this worst-choice policy. For the reasons we've outlined, these courses are just asking for problems.

Close the course for the winter. From the stand-point of having the greens, tees and fairways in the best possible condition for spring, this is certainly the best policy. There is no doubt that winter play on the tees and fairways can thin the turf and compact the soil just as it can on greens. However, golfers don't putt on tees and fairways during the summer and don't mind some cultivation and overseeding of these areas during the spring. Nevertheless, many courses establish temporary greens for the winter, or sacrifice small portions of the regular tees for winter use if play is expected to be moderate or heavy. If the Club decides to keep the course open, whether or not regular greens are used, golfers should be asked to wear shoes without spikes or cleats whenever possible and carts should be restricted to paths - if they are allowed at all.

Winter play can do an inordinate amount of damage to the health and playability of the greens in relation to the number of rounds. Every Club considering winter play should question whether or not it is worth the risk of damaging the greens and affecting their playability for a significant period of the regular season by allowing a relatively small percentage of the Club's members to use them all the time. In the view of most head greenkeepers, turf grass scientists and agronomists, it is not. Unfortunately, even the considered opinion of the experts is unlikely to separate winter play from politics and religion as a topic of controversy among golfers.

● This article first appeared in the USGA Green Section Record in November 1987 to nationwide acclaim. It is reproduced here with due acknowledgement and thanks to James Snow, whose wise words demand repeating. Certain minor text changes have been made to adapt US terminology to a European readership, eg. 'fall' has been changed to 'autumn' and 'golf course superintendent' to 'greenkeeper'.

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