

What happens to a golf course when exposed to intensive and persistent rain?

Golfers need to understand the current challenge posed by the persistent and intensive rainfall which dominates the UK climate over the winter. The monthly rainfall averages have been well above normal volumes since July 2023. These conditions have numerous impacts on the golf course and greenkeeping operations.

The volume of rain has commonly overwhelmed the natural drainage potential of soils and drainage systems, especially aging designs which were never designed to calculate maximum flow rates. In addition, surface infiltration and calculating the percolation rate will be made difficult by traffic, especially where the grass cover has thinned and with silt/clay capping profiles. A prolonged period of worm casting creates other problems in terms of silt/clay contamination at the surface. Parkland courses with clay-based soils have been particularly vulnerable even where there is drainage, but also sandy heathland, chalk downland and links courses have all been subjected to the impact of intensive rain.



What happens when the course succumbs to flooding?

Dealing with contamination issues such as litter and debris are the immediate concerns. A vital first step is ensuring a risk assessment in place to tackle the clean-up operation. Visible debris may include stone washed from paths or adjacent roads. Any buried stone left in the turf base could be damaging to mowing equipment and golf clubs. Such levels of serious contamination are rare and can normally be dealt with by shovelling and brushing by hand.

Irrigation control boxes are unfortunately ready-made water traps. It is important to clean out any soils which have migrated into the boxes and have buried the valves and electrics such as wires and solenoids. Check the function of the electrics at an early stage in the season.

Bunkers

Beyond the visible issues of litter and loss of grass cover, the physical contamination left from flooding may include silt deposits. These can be damaging to the longer-term surface drainage of turf and bunkers.

The sand may need to be stripped out and replaced in the worst cases of flooding. Many courses are investing in redesigning with contouring which diverts water away from the bunker and renewing the construction profiles of bunkers to include a permeable membrane which will protect the bunker from contamination of the sand from below, thereby improving drainage and overall maintenance and playability.



Turf

Silt deposits can also damage the soil texture and structure. Fortunately, most deposits will be compatible with the native soils. The deposits can be problematic if capping drainage profiles or when contaminating previously sand dressed areas. Some form of removal (scarification, coring) or penetration (aeration) may need to be applied in advance of redressing to dilute the contamination.

Flood damage can adjust the soil chemistry, often not visible until there is evidence of turf decline in areas previously affected by saltwater (coastal storms or high tide flooding). Those affected by coastal flooding may need to check the physical and chemical status of soils to avoid long-term damage to plant health and soil structure before implementing aeration and soil amendments such as Gypsum, or investing in overseeding only to see less salt-tolerant grass species fail.

Recovery

The last point to consider is how to apply recovery aeration, top dressing and managing traffic on damaged areas. There is little point in aerating saturated soils even if water is perching in the upper profile. The added weight of aeration equipment or allowing soft ground to be pulverised by play could be counterproductive.

Apply corrective aeration when the soils are receptive to treatment. Sand dressing can be applied to help dilute silt contaminated turf base conditions but wait until conditions are conducive to achieving the desired result. Correct the damage and then consider what measures, such as design changes, can be applied to prevent repeat damage. Be patient and manage your expectations.

Impact on Greenkeeping Operations

Greenkeeping teams will see the impact of the conditions even more than the golfer. Maintenance schedules will be severely disrupted. Regular aeration schedules have been interrupted as ground and soil conditions have been unreceptive to the treatments usually applied. There is a risk of doing more harm than good with ill-timed aeration, smearing the soil profile or damaging the turf. We would often see operations such as coring or deep solid tine aeration, performed on wet soils, cause additional surface softening at a time when growth and recovery is very limited.

Winter project work such as construction is likely to have been delayed because of the conditions. Wet ground conditions have restricted the usage of heavy plant such as excavators, along with the ability to transport materials such as aggregate and turf across the course without damage to the haulage routes. Greenkeepers will often resort to heavy lifting and detailed hand work just to make progress but delays are inevitable.

Other more routine operations have been affected, such as the inability to maintain a schedule for spraying. This may interfere with the planned applications which are an important part of Integrated Disease Management strategies. The golfers are therefore likely to see this impact through increased scarring or weakened turf.

