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Managing the Impact of 2018/19 Weather

‘All the right notes’

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SPORTSWATER DRAINAGE systems

MASH UP

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1929–2019

Wet Autumn/Winter Conditions :

- Issues:
  - The soil around the pin is likely to become severely compacted
  - Fine particles of silt and clay can migrate to the surface, resulting in soil-stained patches round pin positions and other well trafficked routes
  - These effects weaken the turf and impede surface drainage

Wet conditions: Top down or Bottom up

- Strategies:
  - A sound aeration programme will always help
  - Aim of greens management should be to develop firm and dry surfaces to minimise effects of wet weather

- Do you need to drain your greens?

The Big Freeze and the ‘Beast from the East’

Snow cover

- Main concerns:
  - Development of the disease snow mould/Fusarium patch (caused by the pathogen *Michrodochium nivale*)
- Most likely occurrence:
  - If greens are untreated with a preventative fungicide
  - Greens have active fusarium patch before the snowfall and turf is insulated under the snow

Freeze injury

- Need to assess potential damage, this will depend on:
  - Individual circumstance
  - Sward composition of the greens
- Annual meadow grass (*Poa annua*) dominated surfaces are more likely to suffer under ice >35 days
- Compared with bent and fescue surfaces which have been shown to survive for 70 days in the US

Frosty conditions

- Frozen plant tissues are easily bruised by players' feet.
- Following a thaw, it is possible to see wear for several weeks, particularly around hole sites.
- The greater the weight of play in hard frost, the greater becomes the extent of this damage.
- Affected areas remain thin for long periods, altering the trueness of the putting surface, and are more susceptible to disease in spring.

Into the Frying Pan

Extreme Heat

- Cool season grasses will grow actively up to 24 degrees C. Meadow grasses are the lowest and fescue / ryegrasses the highest.
- Above this temperature the plant will start to become dormant.
- Wilting is seen as the plant cannot replace losses from the leaves.
- Above 30 degrees the plant will scorch and bruise under traffic.

Heat Shock

Fairways

- Most significant damage since 1976.
- Fairway irrigating became ineffective.
- Playability was consistent at the time.
- Inconsistencies and damage became problematic once the drought broke.
- Soils have remained dust dry.

The Impact of Heat and Drought

- Grass root mass and depth was already weak following a cold spring.
- Soils and drainage potential had been damaged by prevailing wet conditions during 2017 and before.
- Spring renovations were typically adjusted or omitted due to wet into dry conditions.
- Wetting agent applications were commonly late starting or ineffective.
- Soil moisture management was time consuming and often with variable results.
- Aeration treatments were reduced for fear of additional stress.

Drought Symptoms

- **Initially the grasses will darken in colour and show footprinting.**
- **As the drought continues the turf will go dormant and yellow off.**
- **Under prolonged conditions the vegetation can wear away.**
- **Significant species differences least drought tolerant to most: Meadow grass, bentgrass, fescue, ryegrass, tall fescue.**

2018 autumn fairway recovery

- Requirement to puncture or rip the dead/decaying cap
- Wetting agent
- Overseeding
- Feeding
- Provisions for 2019 maintenance

2019 fairway winter condition and spring recovery

- Moss
- Drains
- Feeding
- Seeding
- Wetting agent

Disease and Disorders:

Anthracnose

- Anthracnose foliar blight was a high risk disease following a wet spring straight into a hot summer.
  - Fuelled by irrigation
  - Low growth
  - Low cutting/rolling
  - Lean nutrition

- Triggered by the break from heatwave and onset of humidity
- Close to many renovation periods

Dry Patch

- Lower roots died off as irrigation only served the immediate upper profile and thatch area.
- Soils remained severely hydrophobic (especially away from irrigated areas).
- Ineffective wetting agent treatments.
- Triggered fairy ring activity with lots of Type I.
- High probability of seed immediately failing .

Fairy Ring

- Moisture frequently exceeded min-max requirements in the thatch region. Wet/Dry cycles.
- Irrigation never reached deep layers.
- Rehydration was difficult.
- Surfaces remained largely unaffected other than visual.

Summary

- Increase reparation budgets
- Be patient
- Prepare for late summer / autumn repairs
- Understand the changing nature of disease thresholds / management
- Focus on the basics
  - Water management
  - Nutrition
  - Aeration
- Deal with the foundations
  - Drainage
  - Irrigation
- Set clear objectives and audit progress / performance

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