

BOWLS Fact Sheet *SUMMER 2015*

Managing Greens during an El Niño Weather Pattern



Introduction

Presently NZ is experiencing an El Niño weather pattern and National Institute of Water and Atmospheric Research (NIWA) are predicting it is extremely likely this will continue during this coming summer to a similar intensity as the summer of 1997/1998. So what does this mean for Turf managers?

During an El Niño weather pattern we can expect:

- Generally a greater occurrence of and stronger south-westerly winds.
- Drier conditions in the east of NZ.
- Wetter conditions in the west.

The potential effect from El Niño this summer on rainfall is indicated by the 1998 El Niño summarised in Figure 1.

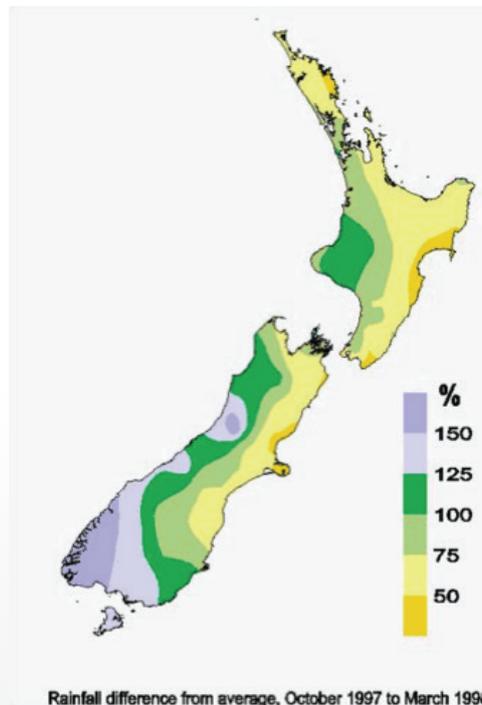


Figure 1: Variations from the average rainfall that occurred in the 1997/98 El Niño event
(Source: Reid, B; The Royal Society of NZ, October 1998)

Eastern New Zealand

Turf facilities on the east coast of New Zealand can expect substantially less rainfall this summer. Given these areas are presently experiencing below average rainfall and recovering from last summer's drought, soil profiles will on average go into summer in a drier than normal condition.

Main impact on bowling greens and surrounds

1. Increased risk of Golden bracelet, Rolfs disease & fairy rings.
 - a. Golden Bracelet disease – this is encouraged by excessive drying at depth and surface watering. Regular sampling, commencing early in spring is recommended to ensure the profile is uniformly moist to 75mm – approx.
 - b. Rolfs disease is a problem on starweed and sometimes dioica. Although humidity is one contributing factor, drying/ wetting cycles that commonly occur around the ends due to either poor coverage or sprinkler arc adjustment is also an issue and will be more severe in a dry summer.
 - c. Fairy rings will generally be worse or the effects of these more serious. Make sure the fairy rings (including approx. 1m beyond the ring) are adequately wetted up to depth during spring; consider using a penetrant/wetting agent programme; sample regularly and be prepared to hand water affected areas.
2. Increased risk of damage from water related stresses such as heat stress and uneven sprinkler uniformity.



Dry end



Uneven watering



Heat stress from play

3. Increased risk from nematode damage.
4. Damage from play - Manage play so that play is spread over the whole green and close favourite rinks at times.

Key management strategies

1. Irrigated surfaces - Review Spring 2015 NZ Turf Management Journal.
 - a. Ensure profile is uniformly wetted up to a depth of at least 75-100mm for bowls.
 - b. Ensure irrigation system is operating effectively.
 - c. Take a core the day after watering the green to see how far the water has penetrated into the soil profile. If it hasn't gone deep enough add more water that night and recheck.
2. Implement a regular soil monitoring programme with a moisture meter and/or physically monitoring soil moisture content. Check daily in the known stress areas and selectively water these areas if needed with sprinklers or soak hoses.
3. If located in a area where water restrictions are likely, develop a drought response plan that enables water conservation measures to be put in place to match the progression of water restrictions over the dry period.



Figure 2: Water is a limited resource particularly during dry years (Source:ecan.govt.nz)

Western New Zealand

Previous El Niño events and shown in Figure 1, indicate that turf facilities on the west side of New Zealand can expect normal or in some areas, significantly more summer rainfall than normal.

Main impact on bowling greens

1. Increased incidence of Brown patch and possibly Rolfs disease.
2. Possibility of over watering.

Key management strategies

1. Managing for disease. Wet summers inevitably result in increased humidity and hence greater susceptibility to disease.

Turf managers will need to:

- a. Have an active disease monitoring programme.
- b. Manage leaf wetness (timing of irrigation, optimising surface infiltration).
- c. Avoid lush growth:
 - Nitrogen and soil should have been discontinued in early winter and plants should be run as 'hard' as possible over the playing season.
 - Maintain adequate potassium applications.
- d. In some situations a preventative spray programme will be required during the disease susceptible months. Generally such a programme should be based around a combination of systemic and contact fungicides – the latter required to manage and keep the spore loading down to a 'low level' to minimise disease flare-ups.



Brown patch on maniototo.

- e. Manage play so that play is spread over the whole green and close favourite rinks.
2. During wetter summers, there is less reliance on irrigation. Regular monitoring either using a moisture meter or physical sampling is essential to avoid over-watering.
 3. Increase mowing frequency to reflect the extra growth that is likely to occur during a wetter summer.

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