

TURF TRIAL INFORMATION

H₂Pro[®]
TriSmart

Bi-monthly applications of H₂Pro TriSmart on fairways with a double rate were as effective as monthly applications and would save manpower and resources.

SUMMARY

- A trial was conducted on a links golf course fairway turf in the North West England during 2023.
- H₂Pro TriSmart was compared at two rates; monthly at 10L/ha (6 applications) and bi-monthly at 20L/ha (3 applications) both applied in 700L water.
- The trial ran from 4th April to the 18th September. Fortnightly assessments of turf quality assessed visually on a 1-10 scale and VMC % taken at 3.8cm and 7.6cm depths were made.
- Both wetting agent programmes provided a significant ($P < 0.05$) improvement over control plots for mean turf colour and mean VMC% at both depths.
- There were no significant differences between the two wetting agent programmes during the trial which suggests a bi-monthly approach could be utilised to make a significant saving on labour and resources.

OBJECTIVE

To compare turf quality and rootzone moisture content following two H₂Pro TriSmart programmes; reduced frequency, double rate applications and label rate, monthly applications.

METHODS

A wetting agent trial was set up on fescue-dominated, tee quality turf at a links golf course in North West England. Treatments were applied to 1m x 1m plots in a randomised-block trial design with 4 replications (Table 1). The trial started on 4th April for 22 weeks ending on 18th September. Fortnightly assessments of turf quality (assessed visually 1-10 scale) and volumetric moisture content % (VMC%) at two depths; 3.8cm (1.5 inches) and 7.6cm (3 inches) using a Spectrum Fieldscout TDR350 soil moisture meter.

Treatment name	Application rate (L/ha)	Application interval (weeks)	Water volume (L/ha)
Control, Untreated	N/A	N/A	N/A
H ₂ Pro TriSmart - monthly	10	4	700
H ₂ Pro TriSmart - bi-monthly	20	8	700

Table 1

RESULTS

The application of H₂Pro TriSmart at both monthly (10L/ha) and bi-monthly (20L/ha) significantly ($P<0.05$) increased mean visual turf quality over the control on 5 of 13 measurement occasions (Figure 1). Both applications of TriSmart also increased VMC% in the rootzone during periods of dryness and drought stress, with 4 occasions being significantly different ($P<0.05$) to the control at 3.8cm, and 3 occasions at 7.6 cm (Figures 2 & 3). This demonstrates the ability of applications of H₂Pro TriSmart to maintain a higher VMC% of the rootzone during periods of dryness and so potentially improve plant health and performance. Comparisons between the two H₂Pro TriSmart programmes in place illustrate that at no time is there a significant difference between the monthly and bi-monthly programme for mean visual turf quality or mean VMC% at 3.8cm or 7.6cm. This suggests that either programme would be acceptable for managing tee or fairway type turf and potentially utilising a bi-monthly programme would reduce resources (fuel and water) used and operator hours to make a considerable club saving and contribute to a reduction in carbon emissions.

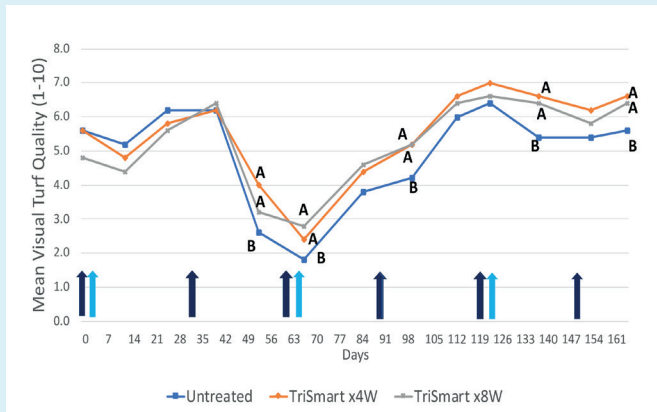


Figure 1: Mean turf quality (1-10). Letters signify comparative significant difference. Dark blue arrows denote applications on a monthly programme, light blue arrows denote applications on a bi-monthly programme.

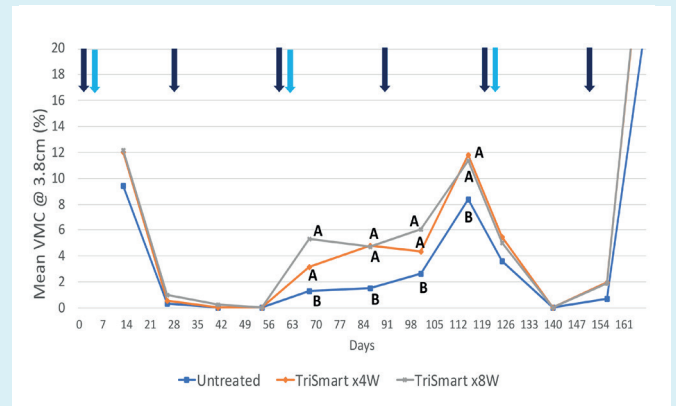


Figure 2: Mean rootzone VMC% at 3.8cm. Letters signify comparative significant difference. Dark blue arrows denote applications on a monthly programme, light blue arrows denote applications on a bi-monthly programme.

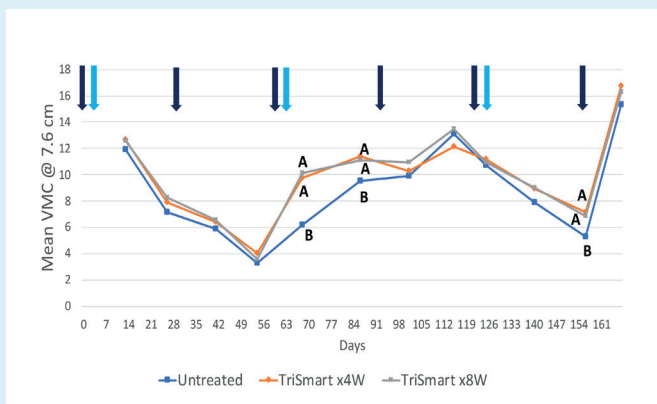


Figure 3: Mean rootzone VMC% at 7.6cm. Letters signify comparative significant difference. Dark blue arrows denote applications on a monthly programme, light blue arrows denote applications on a bi-monthly programme.

CONCLUSIONS

This trial demonstrates that a wetting agent programme can contribute to turf quality by maintaining improved rootzone VMC% through periods of dryness for tee or fairway type turf in a links golf course setting. A bi-monthly schedule of applications could deliver both significantly improved turf quality over untreated areas through summer stress and recovery periods as well as reduce water needed for application, irrigation water needed for watering wetting agents in and save time and money by reducing the number of applications needed.

As Turf Managers evaluate their current strategies for enhancing sustainability in site management without compromising surface quality, trials such as this enable them to advance in both a responsible and significant manner.

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