TURF TRIAL INFORMATION

H2Pro TriSmart

H2Pro TriSmart significantly reduces Dry patch on golf green turf.

UNIVERSITY OF ARKANSAS

SUMMARY

- Independent trial completed at Arkansas University (Professor Doug Karcher).
- Completed summer 2018 on *Agrostis stolonifera* sand-based golf green.
- H2Pro TriSmart applied initially at 25L/ha followed by three applications at 10L/ha significantly (P<0.05) reduced localised Dry spot over a control and other surfactant applications.
- Turf quality assessments for TriSmart treated plots were similarly significantly (P<0.05) greater than other treatments.
- Using four applications of H2Pro FlowSmart (penetrant wetting agent) at 10L/ha significantly (P<0.05) reduced localised Dry patch in comparison to a control but was roughly 50% less effective than H2Pro TriSmart.
- H2Pro TriSmart increased rootzone VMC% over the control at 0-3cm and at 0-7cm.

METHODS

An independent summer wetting agent trial was conducted at Arkansas University under the guidance of Professor Doug Karcher. An *Agrostis stolonifera* sward over a sand-based rootzone maintained as golf green turf was used for the trial. Nine existing and experimental wetting agents were applied in a randomised block trial design with four replications. Wetting agents were applied at a range of rates at 28-day intervals from June to September with four applications each. H2Pro TriSmart was applied at 25L/ha in 700L water initially followed by 3 applications at 10L/ha. H2Pro FlowSmart was applied at 10L/ha for 4 applications. Standard assessments were made on a monthly basis; % localised dry spot, turf quality, turf colour and volumetric moisture content at 3cm and 7cm.

Image 1
Treatment application utilising a spray shield.

RESULTS

Localized Dry spot (LDS) pressure increased during the course of the trial to reach a mean greater than 80% of the control plots affected (figure 1). H2Pro TriSmart treated plots reduced LDS significantly (P<0.01) to lower than a mean of 5% of the plots affected. H2Pro Flowsmart reduced LDS to a mean of 40% of the plot affected, roughly halving the LDS present in the control plots. The remaining wetting agent treatments demonstrated a range of LDS reduction, but none as great as H2Pro TriSmart. The amount of LDS experienced on the trial and the success of the H2Pro TriSmart programme can clearly be seen in Image 2 overleaf.

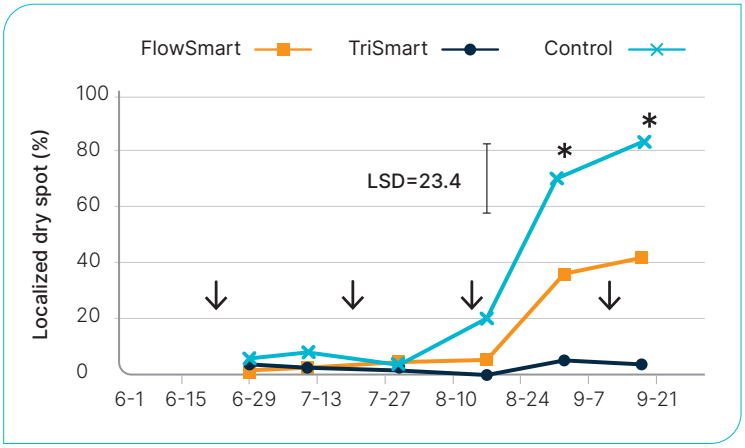
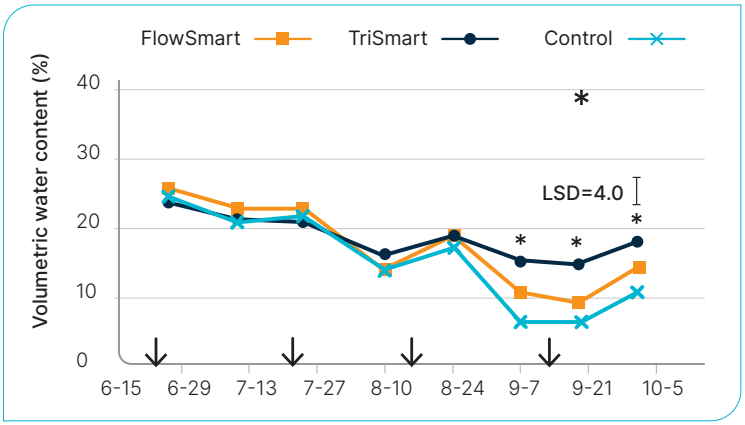


Figure 1. Effect of wetting agent treatment on localized Dry spot. Error bar indicates least significant difference value for separating treatment means within dates. Asterisks indicate dates when significant differences were present among treatments.

Assessments of visual turf quality were aligned with the development of LDS with H2Pro TriSmart showing significantly greater turf quality than the control and other treatments (data not shown). Mean rootzone volumetric moisture content for both 0-3cm (figure 2) and 0-7cm (data not shown) were significantly greater following applications of H2Pro TriSmart than in control plots for the last two assessments when summer temperatures increased and plant stress levels were elevated.

Figure 2. Effect of wetting agent treatment on average volumetric water content at the 0 to 3cm depth. Error bar indicates least significant difference value for separating treatment means within dates.



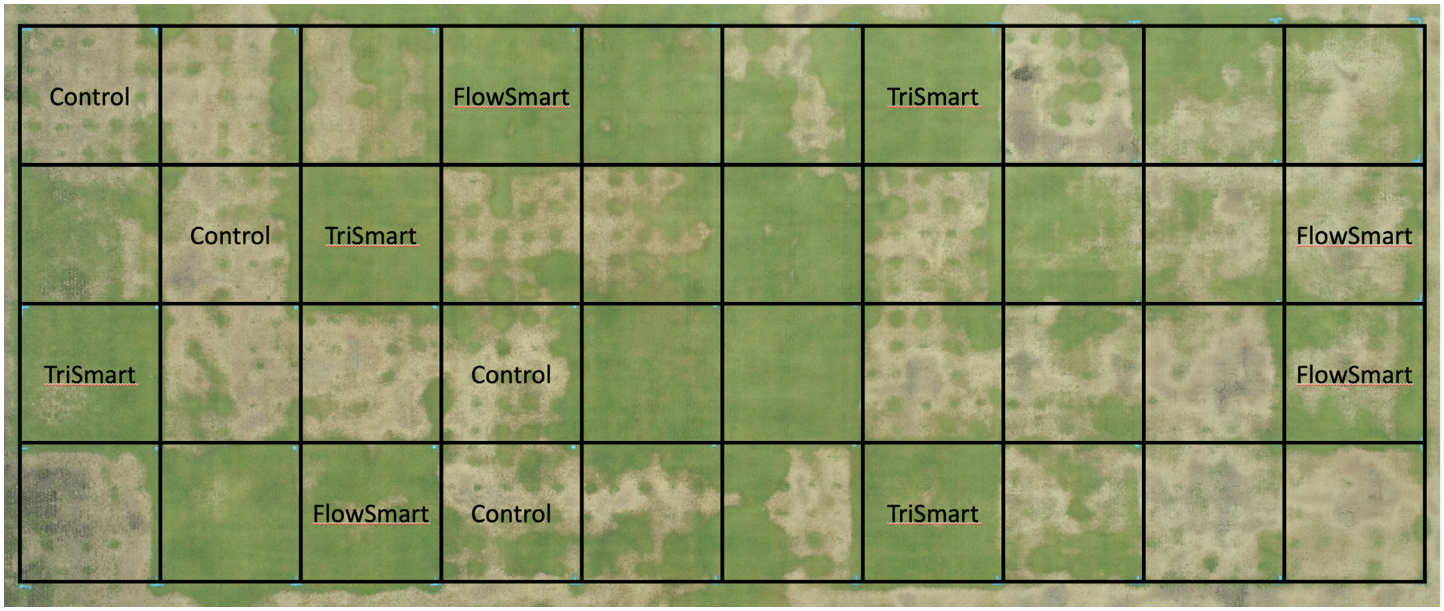


Image 2. Drone image and labels illustrating the extent of LDS across the trial area at the end of the summer period.

CONCLUSION

An independent trial at the University of Arkansas demonstrated the value of using H2Pro TriSmart in a wetting agent programme through a summer period for a golf green. LDS levels reached greater than 80% in control plots, and rootzone moisture contents dropped through the summer, however a H2Pro TriSmart programme significantly reduced LDS to a mean of only 5.6% and retained significantly more rootzone moisture through the critical period.