New approaches to pesticide spraying and application method in managed amenity turf

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ABSTRACT

At present pesticide application in most managed amenity turf situations is undertaken with pedestrian or tractor mounted sprayers with standard flat fan nozzles. Water rate for application is commonly between 300 and 1000 l ha^{-1}. Using these high water volumes can be time consuming, as tank refills are required frequently. Also, with the weather conditions in Great Britain producing few perfect spray days, spray drift is always an issue for spray operators.

A new sprayer has recently been brought to the UK amenity market by Micron. As well as conventional nozzles, it also has controlled droplet applicators all located under a drift-reducing shroud. Trials have been carried out to determine the effectiveness of using the CDA in managed amenity turf situations.

The effectiveness of applying a selective herbicide containing MCPA, mecoprop-P and dicamba in 30 l ha^{-1} of water using the Environmist was compared to applying the same product in 300 l ha^{-1} water with a conventional pedestrian sprayer as recommended on the product label. Equal results in terms of weeds control and turf quality were observed.

The plant growth regulator, trinexapac-ethyl, is commonly used in managed amenity turf to help produce the best playing surfaces. Trials were undertaken to determine the effect of reducing the water volume for application of trinexapac-ethyl in both a golf green and a golf fairway situation. Again equal results were obtained in terms of turfgrass quality, turf colour and reduction in herbage yield when comparing application using the Environmist at 30 l ha^{-1} water volume compared to a conventional sprayer using 300 l ha^{-1} of water.

Microdochium patch (caused by *Microdochium nivale* (Fr.) Samuels and I. C. Hallett) is the most common disease found on UK golf greens (Mann and Newell, 2005). The performance of iprodione applied by either the Environmist or a conventional sprayer was tested curatively. Conventionally iprodione is applied in a water rate of 500 l ha^{-1}. This was reduced to 50 l ha^{-1} in the Environmist. Again results were similar for both sprayers, showing good control of the disease.

Therefore, these trials showed that CDAs could be used to apply certain products approved for use in managed amenity turf in much reduced water volumes without any detrimental effects, achieving benefits in terms of time saving and reducing the potential for drift.

References

Mann R L, Newell A J. 2005. International Turfgrass Society Research Journal **10**: 224–229.