



# Sprayer test to pinpoint accurate application

**A national sprayer testing scheme is set to be introduced across the amenity and landscape sectors within the next three years. Whilst the testing process will impose a further cost on the industry, the benefit of more accurate application through a well-maintained sprayer and avoiding further problems will more than recoup the charge, believes Syngenta Application Specialist, Tom Robinson.**

When the Agricultural Engineers Association instigated the Sprayer Test Scheme for farm sprayers in 1997, a quarter of the sprayers tested failed during the first two-year round of inspections. Of those, a third (33%) failed with worn sprayer nozzles, which made accurate application impossible to maintain.

“New nozzles are capable of delivering very high levels of accuracy, but they are a wearing part like any other piece of machinery,” according to Tom. “They do need to be replaced when worn, to maintain the desired high levels of accuracy and consistency.”

“Furthermore, changing the nozzles now enables operators to take advantage of the latest developments in nozzle technology for turf applications, he added.

A new set of Syngenta XC Turf Nozzles cost less than 15% of the value of a typical fungicide and fertiliser tank mix, so the expense would be quickly recouped from more accurate application alone – along with other significant improvements in application technique and reduced spray drift to achieve enhanced results.

“We are frequently asked how

often a set of nozzles should be changed – but the answer depends largely on how much they are used and what is applied. If they were only used for fungicides and growth regulators across a golf course, for example, the nozzles would last an age; but some fertilisers and particularly trace elements can be far more abrasive and lead to high levels of wear if applied regularly.”

Syngenta best advice is to regularly check the consistency of nozzle output across the full spray boom, using a measuring cylinder to collect and record the output from each individual nozzle for 30 seconds; work out the average and if any nozzle deviates from this figure by more than 5%, the whole set is unacceptably worn and all the nozzles should be replaced.

Nozzles that are working consistently can easily be calibrated to



apply the required water volume.

Tom added that, in the early days of sprayer testing, worn hoses were identified on 20% of sprayers that failed the test, with leaks on 18% of sprayers. A dripping spray hose, or worse still a leaking hydraulic oil pipe, could have catastrophic effects on the turf if it finally burst on a green – with further costly implications for environmental clean-up.

“On 20% of failed sprayers the sight gauge was also unreadable, which makes accurate filling difficult and impossible to assess accuracy during spraying,” said Tom. “If you have calibrated to apply 250 litres across 18 greens, then stop after three and check you have used around 40 litres, and again after six holes etc., to pick up any inconsistency at the earliest opportunity,” he advised.

Other common problems that lead to sprayer test failures included faulty pressure gauges and missing control labels.

Duncan Russell, National Sprayer Testing Scheme (NSTS) manager at the Agricultural Engineers Association added that the introduction of the sprayer test scheme has seen an important significant improvement in the overall standard of spray application equipment, along with a rise in the professionalism of operators in maintaining machines to give more efficient results. Well maintained and tested machinery also retained better second-hand values.

“At a time when costs and budgets are under pressure, the financial losses that could be easily avoided by regular maintenance and simple calibration testing are consider-

able,” he said. “Even at low levels of inaccuracy the cost of sprayer test would be quickly recouped, along with fulfilling demands of club managers, players and regulatory authorities for greater justification and accountability.”

The new rules, implemented as part of the EU Sustainable Use Directive, apply to all boom sprayers over three meters used in agriculture, landscape and amenity. All sprayers should be tested by 26 November 2016 and every five years until 2020, then every three years; however the NSTS recommends testing every year – which is also seen as best practice by the industry-backed Amenity Assured scheme.

There is an exception for knapsack and hand held sprayers, which do not require testing under the SUD.