



### **Glyphosate resistance – the weeds are fighting back!**

So, glyphosate got the renewal many were anticipating. Once again, the process was fraught, and the final decision won by the narrowest of margins, but the 5-year extension will provide the industry with a tried and tested product for a myriad of weed-control scenarios.

But what if, regardless of legislation, glyphosate use was limited on a more permanent basis? What if it lost some of its effectiveness? This scenario, which has occurred in Europe as a number of species have developed resistance to glyphosate, could also become a problem in the UK. At present, there is no evidence of glyphosate resistance in the UK, but in arable cropping there has been a notable increase in herbicide resistance over the past 20 years, and it is feared this may continue.

Glyphosate resistance is a particular risk in amenity uses as there are few, commercially viable, alternatives for annual and perennial weed control. During a recent talk by Barry Hunt at the INNSA conference, I learnt a little more about the threat of glyphosate resistance, and the steps that we, the landscape industry, should be taking to avoid this.

Since the introduction of glyphosate, 40 species have shown resistance worldwide, and 13 of major importance. Two of the species which have shown resistance in other countries are found throughout the UK, and landscape professionals are likely to encounter on a regular basis:

- Canadian fleabane, Guernsey Fleabane and hairy fleabane
- Perennial ryegrass, Italian ryegrass and annual ryegrass

Whilst ryegrass tends to be a weed associated with annual arable crops, fleabane is more frequently found in amenity contexts.

The threat of glyphosate resistance can be reduced by understanding the main causes:

- Over-reliance of glyphosate
- Failure to follow usage guidelines
- Ignorance of integrated weed management

There are several measures that users of glyphosate can take, to prevent resistance:

- Maximise efficacy: Spray at the right dose-rate, with the correct volume of water, at the right growth stage, with the right spray nozzle and in the right conditions
- Use mixtures of herbicides where possible
- Use non-chemical alternatives where possible (e.g. flaming, steam, electrical, mechanical)
- Where resistance is suspected, notify manufacturer and collect samples of weed. Also prevent spread of weed by use of alternative herbicides and non-chemical methods

The environmental effects of glyphosate are still hotly debated, and what happens to it in 5 years is not clear. As professionals, however, we must ensure we use it appropriately, and according to guidelines, so that any environmental impact is kept to a minimum.