

## Keep weed killers out of drinking water

**Dr Katherine Cherry, Severn Trent Water**

The European Commission (EC) sets a maximum allowable concentration of 0.1µg/l for any individual pesticide (including weed killers) and 0.5 micrograms per litre (µg/l) for the total amount of pesticides in drinking water at our customers' tap.

Water companies have to regularly sample their water for pesticides before and after treatment. If needed, water can be blended with other sources on the network to bring the concentrations below the allowed levels. However, there is a cost to this – a recent weed killer issue in Derbyshire cost around £2,500 per day to resolve.

The River Leam and River Avon provide drinking water to over 200,000 people in Warwickshire. The catchment drained by these rivers is intensively farmed and predominately underlain by heavy, drained soils.

High pesticide concentrations have resulted in the catchment being designated a Safeguard Zone by the Environment Agency. This recognises the need for voluntary uptake of measures to prevent further deterioration in water quality.

The main issue in this catchment is metaldehyde, derived from autumn slug control of cereals and oilseed rape. One metaldehyde slug pellet is enough to contaminate an Olympic-sized swimming pool and is very difficult to get out of water using conventional methods. Farmers are being encouraged to use alternative products, such as ferric phosphate, to reduce levels and protect the future use of metaldehyde by farmers.



*Activated carbon filters at Campion Hills*



*Taking samples near the end of the process*

### MCPA a problem

At the Campion Hills water treatment works near Leamington Spa this June, levels of MCPA – a chemical used to control a range of grassland weeds – of more than 0.5µg/l were recorded.

Around 1.6 million litres of water is abstracted from the River Leam and Draycote Reservoir at Campion Hills each day. It is screened and then treated with ozone to encourage the breakdown of pesticides, before being passed through a large clarifier to remove 90% of the suspended solids. It is then treated again with ozone – an expensive operation that accounts for 50% of the energy bill at this works.

The water passes through sand and anthracite filters, then activated carbon filters to remove taste, odours and any remaining pesticides. It is then disinfected with chlorine and mixed for 30 minutes. Once the chlorine levels have been reduced and fluoride added, it is ready to be sent into the water grid.



## Tighter rules for spraying pesticides

Increased stewardship requirements are being put in place for farmers to try and reduce the amount of pesticides regularly being found in water. For example, the need to have qualifications to use herbicides and the ending of 'Grandfather Rights' for spraying professional use products on 26 November 2015. Testing of all spraying equipment (including weed wipers but excluding knapsacks) comes into force on 26 November 2016. These requirements are now included in the Red Tractor Assurance Schemes for livestock.

A recent survey of producers found that 86% of them were aware that weed killers were detected in watercourses. However, only a third of respondents had qualifications for using these products that would be recognised in a year's time.

The [Voluntary Initiative](#) has more details on the new rules and time frames for compliance.

[BASIS](#) runs a certificate in crop protection for grassland and forage crops, which would be useful for anyone selling pesticide products or advising farmers on their use.

EBLEX has also issued a [briefing](#) on pesticide regulations.