PPP Update **Issue 15**
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MCPA and drinking water contamination

Background

Over the last number of years there has been an increasing trend of low level detections of grassland herbicides in drinking water supplies. The chemical of most concern is MCPA, which is the active ingredient in herbicides such as Mortone, Hempacide 30, NU46 etc. Provisional figures for 2017 indicate that there were just over 150 exceedances, of which MCPA accounted for 119 notifications (≈80%). This compares with 137 notifications in 2016. In total, 49 supplies were affected in 2017 compared to 42 in 2016. In part these figures reflect the more intensive monitoring carried out in recent years but they also indicate use in situations where label guidelines may not have been fully complied with. To date none of the breaches have given rise to any health concerns.

In Ireland surface waters (rivers & lakes) account for approximately 80% of drinking water supplies, making them very vulnerable to contamination from a range of sources, particularly pesticides. Many individuals using pesticides, especially herbicides, fail to make the connection between the ditches or drains bordering their field and the small stream that feeds a tributary running into a river or lough from which drinking water is abstracted. Similarly it is not widely appreciated that the legally permissible limit for MCPA (and other pesticides) in drinking water supplies is effectively zero (1 part in 10 billion). To put this into perspective, a single drop or foil seal from a pesticide container could potentially cause an exceedance along a small stream for a distance of 30km! This presents a particularly challenging set of circumstances for farmers seeking to control heavy infestations of rushes, which can come to dominate on wet, heavy, poorly drained land. In many instances when chemicals are used to control rush growth, significant amounts of spray miss the target crop and are applied directly to standing water bodies in the field, and ultimately end up in water courses.

Irish Water and the EPA have identified four priority catchments where an increased awareness and enforcement campaign is needed to address persistent MCPA detections in drinking water supplies. These catchments are Longford Central (Lough Forbes), Troyswood, Co. Kilkenny (River Nore), Abbeyfeale, Co. Limerick (River Feale), and Newcastlewest, Co. Limerick (River Deel). Efforts to reduce the incidence of these detections are being coordinated by the National Pesticides and Drinking Water Action Group, which is chaired by the Department of Agriculture, Food and the Marine and includes representation from all the key stakeholders (other Government departments and agencies, local authorities, industry representative bodies, farming organisations, water sector organisations, amenity sector organisations). To reduce the incidence of detections several actions have been taken and more are being planned:

- In January 2016, the label directions on all ‘straight’ herbicides based on MCPA (see Table 1) were revised to reflect the on-going problem. Rates of use were reduced, a 5m buffer strip was made mandatory and it was made illegal to apply

a ‘straight’ MCPA-based product between the months of October and February. Use in a knapsack sprayer or weed-wiper was also made illegal. Good Plant Protection Practice guidelines were also amended to make it illegal to fill sprayers directly from water courses.

- Over the last number of years the Department of Agriculture, Food and the Marine has introduced various planks of the Sustainable Use of Pesticides Directive (SUD), which is implemented through an action plan to achieve the sustainable use of pesticides and protect human health and the environment. This has required that all links in the chain from retailers of pesticides to the end-users (and advisors) are trained and registered with the DAFM. In addition since November of 2016 it has been a requirement that all boom sprayers with a boom width greater than 3m are tested to a recognised standard (sprayers less than 5 years age are exempt). The SUD also makes it a requirement that individuals practice Integrated Pest Management (IPM), and in this regard they are obliged to look at alternative methods of control before resorting to chemicals. Mulching or mowing rushes might be one option to consider. Some farmers are reporting good levels of control from using products based on glyphosate in weed-wipers.

- General awareness raising activities including calling to farmers in some ‘problem’ catchment zones have already been undertaken and will continue.

- Following on from the designation of the four priority catchments, the National Pesticides and Drinking Water Action Group has agreed to focus on these areas for further awareness raising and enforcement activities. As part of this effort, the Department contacted retail outlets in the designated catchments to ascertain the names and addresses of all purchasers of herbicides based on the active MCPA (e.g. Mortone, Agroxone, NU46, etc.). [It has been a requirement since January 2014, that this information be recorded by retailers of professional use pesticides, and be made available on request to the Department]. Using this information, a letter issued to 2000+ individuals in the four catchments outlining the problem, reminding the recipient of his/her responsibilities with regard to the Sustainable Use Directive and the storage and use of pesticides, and also indicating that they may be inspected to ensure compliance with all current rules. On inspection, where non-compliance is found, individuals may be subject to appropriate sanctions in respect of Cross Compliance infringements and failure to meet the requirements of the SUD.

- In December 2017 the Department of Agriculture, Food and the Marine introduced an additional requirement for companies marketing MCPA-based products to participate in an industry-led product stewardship scheme. This stewardship scheme includes an enhanced monitoring and sampling program in the four priority catchments during March through to October 2018, and will supplement the routine sampling program undertaken by the Local Authority on behalf of Irish Water. The monitoring will exclusively target phenoxy acid based herbicides (MCPA, 2,4-D etc.). During the busy spraying windows, April and May, August and September, sampling will be weekly, and at all other times every two weeks. Monitoring points will be upstream of the abstraction points, and will focus on the confluence of minor rivers and streams prior to them flowing into ‘major’ water

courses. In this way, information will be available to allow targeted awareness raising and enforcement activities as required. If, during the lifetime of the monitoring program, improvements are not forthcoming, the Department may consider introducing additional restrictions with regard to the use of MCPA-based products in these catchments, e.g. increasing buffer zones significantly from the current 5m. It is envisaged that the enhanced monitoring program will remain in place in the four priority catchment areas for two years, and that after this period, the incidence of breaches will be reduced to a level that will allow the enhanced monitoring and other elements of the stewardship scheme to be rolled out in other problem catchments if necessary.

- DAFM and other stakeholders will be undertaking activities in the affected regions to help spread the word and raise awareness generally about the correct use of MCPA-based products. A short video demonstrating best practice when using MCPA-based products for rush control is available on the DAFM YouTube channel at https://www.youtube.com/watch?v=jPjWICPN3S0

It is hoped that the cooperation of all stakeholders in implementing the initiatives outlined above will lead to a significant reduction over time in the number of drinking water supplies with MCPA exceedances. Remember in many cases the contaminated water sources are ultimately feeding group water schemes providing drinking water supplies to the local community.

Table 1. Sample of 'straight' MCPA-based products bearing significantly revised application rates

Product	PCS No.	Conc. of active substance (g/l)	Max. rate of use L/ha
Mortone	03529	300	4.5
Hempacide 30	03531	300	4.5
Bandon MCPA 30	03751	300	4.5
Agritox	05498	500	2.7
Agritox 500	05499	500	2.7
Agroxone 50	05500	500	2.7
Mastercrop MCPA 50	05510	500	2.7
NU46	05501	500	2.7
M50	05505	500	2.7
Pol-MCPA 500 SL	05494	500	2.7
Easel	05502	750	1.8

IF YOU ARE USING ANY PLANT PROTECTION PRODUCT, READ THE LABEL AND FOLLOW ALL GUIDELINES. TAKE SPECIAL CARE TO AVOID CONTAMINATION OF WATER COURSES SO THAT A COST EFFECTIVE RUSH CONTROL MEASURE CAN BE RETAINED.